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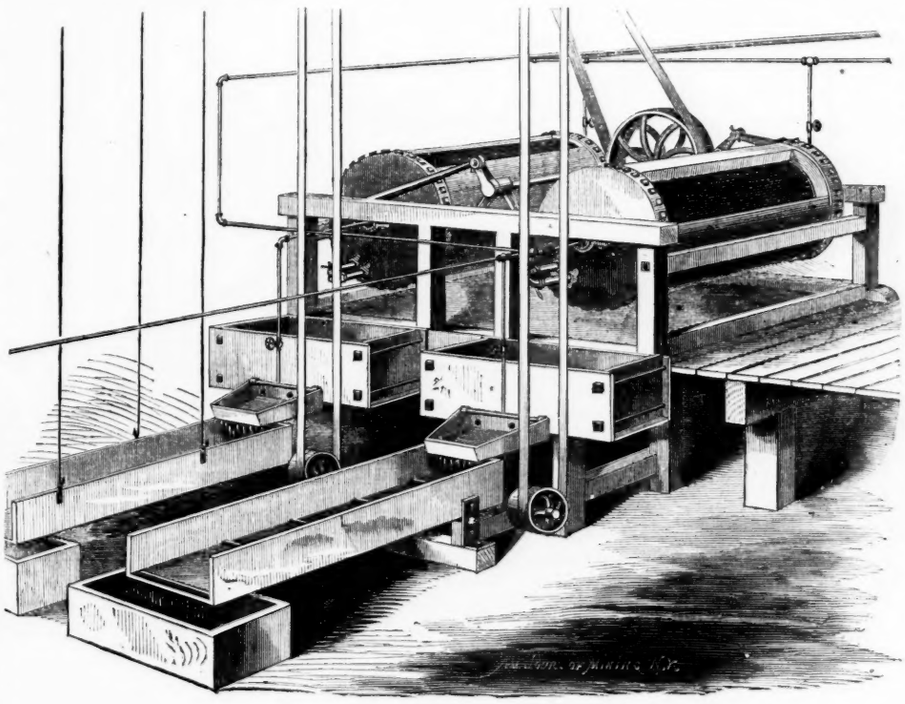
THE CHLORIDE OF SOD.UM PROCESS.

Mr. J. K. Wyckoff, formerly of Georgia, is now working ores at his reduction works, foot of North Third street, Brooklyn, E. D., by means of his recently patented chloride of sodium process. By reference to our illustration, it will be seen that the machinery used consists of a wooden cylinder—like the old Indian tree-cradle that many of our California readers will remember—and a shaking table, with the ordinary mechanical appliances for working them. The process is as follows:—Two hundred pounds of finely crushed ore is put into the cylinder or amalgamator, with about one hundred pounds of mercury and sixty gallons of water, to which three per cent. of salt is added. The cylinder is then set in motion, rocking backward and forward. Steam is now let in through a pipe, and in about eight minutes the water boils, and the mercury permeates the entire mass. Forty-five minutes having elapsed, a stream of cold water is let in, which suddenly cools the mass and precipitates the mercury. The gate at the end of the cylinder is then opened and a stream of water run through the cylinder, until it comes clear, when the gate is closed and a new change is put in—the mercury still remaining in the cylinder. The shaking table at the end of the cylinder is simply to work the *debris*, and retain whatever mercury may come over with it—which is found to be very trifling. It is claimed that the results produced by this process of amalgamation are wonderful—many of the most refractory ores of Colorado, California, Virginia and North Carolina, have been worked and made to produce from $100 to $1,300 per ton; that such results as are afforded by his process cannot be produced by any other; and that in many instances the tailings of other processes have been thus worked by him and made to yield astonishing results. We all know that particles of gold, when fine enough, will float in water and even in the air, and that much of it is lost by the old processes. All this wastage, Mr. Wyckoff declares, he can obviate by his chloride of sodium plan of amalgamation. Our readers can, however, judge for themselves—Mr. Wyckoff having no objection to parties bringing their own ore to his reduction works, and working it themselves under his instructions. In a future number of the JOURNAL OF MINING we shall illustrate Mr. Wyckoff's new Concentrator.



THE CHLORIDE OF SODIUM PROCESS.

American Iron.

The value of the American Iron ore was known in England long prior to the Revolution, at which time it was imported into England in considerable quantities. Of late, American ores have again been sent to England. The Franklinite ore, of New Jersey, would all be taken in England to assist the Bessemer process, were there no uses for it here. The English engineers are now talking of importing American Salisbury iron ore to assist in making car wheels as they have utterly failed in making good cast iron chilled wheels from any iron in England. The American cast iron wheels drove the English wrought iron wheels from the railways of Canada. Alexander M. Ross, engineer of the Grand Trunk Railway of Canada, says in a letter, "I was myself instrumental in the introduction of the English pattern of wheel, and after two or three years' trial, had to abandon them altogether." An English engineer of note writing to Col. Simpson lately to send him some cast iron wheels of Salisbury iron, asked him to get a guarantee that each wheel should stand a load of two tons at ordinary speed. The wheel founder said: "I will give him a guarantee that each wheel will stand twenty tons at any speed."

Miners' Hospital.

The miners of Montana have established an Hospital for such of their number as may need the services of good physicians and are unable to pay for them. Other mining communities might follow this example with credit to themselves.

Sodium Known to the Ancients.

On page 120 of the JOURNAL OF MINING we published a letter written to the London *Mining Journal* relative to a *conversazione* held at the house of Mr. John Calvert, Strand, London, in 1853, during which he made certain statements, that, if true, may most seriously affect the reputations of Dr. Wurtz and Mr. Crookes, touching their merits in discovering—as each claims to have done—the sodium amalgam process. In the same paper of later date appears a letter upon the subject, written by Mr. Calvert, and this is quoted and commented upon in the London *Chemical News* of May 25th—of which periodical Mr. Crookes is the editor—as follows: "The following remarkable statements have been made by Mr. John Calvert, C.E., in the *Mining Journal* for May 19. Are any of our readers aware of the existence of such wonderful manuscripts? To separate sodium direct from its chloride requires more knowledge of chemistry than we possess at the present day. But of this the author of these quotations was probably not aware:—'Before proceeding to describe the old woven onyx (asbestos) documents discovered by me in my voyage to New Guinea and Borneo, I will notice a few passages from the grand manuscript work of Roger Bachon (Bacon), Ars. Omnia, in which he and his pupils seem to have amassed some considerable quantity of matter, and in translating the Arabic works of Lebri (chemical) and the Persian Eos (or Æos), a work describing the laws of things existing in air, also in water, and also in the earth, we are enabled to snatch at a few stray historical facts worthy of notice, which appear to suggest the origin of the science of alchemy:—And there came from the land of Jap, a long way over the big water, a man called Syni, whose skill in the art of metals and rare things was so great, that he made metals that no man knew from rock and earth, which lay in great abundance in many places; but this man Syni, finding how great the admiration for gold was in all the land, forthwith set to work to make that which was prized so greatly by all men; and after many labors and the most subtle combination of uncommon matters, he took from his earthy medley real gold, which he declared to be the work of his own will, and that he transmuted the common metals into the great; but all men saw the small piece of gold to the vast labor, and held him low in estimation until

at last they sought him to kill him, as one of weak magic and power; but Syni, judging their intention, fled that place, and going up into the land of the great king, he made new fire vases and stoves, and brought forth wonders of extreme variety; and, having gathered together many slaves, he caused to be hewn from the mountain his effigy, 400 (?) high, which, when all men saw, they came from far lands, and cut from their ornaments many pieces of gold to lay at his feet. The Ars. Omnia is a vellum manuscript, subdivided into one hundred and thirty books, and is neatly written in double columns, by seven or eight different scribes, and, with the exception of a few extracts, all in pure Latin. The first forty-three books are upon the history of the earth, in which the Eos is frequently quoted: the next seven are made up from translations of the works of Hermes Trismegistus and Artesius; then a book on the great Persian King Kalid, a great chemist, and three books of translations of his works; then sixteen books on Geber, the Arabian king and chemist, and then follows a book on the 'Metal of Salt,' in which he describes how the burning matter of the salt has greater affinity for other substances still more foreign, with which it will combine, leaving the metal of salt pure. Also, at another page, he says that, 'the transmutation of salt is effected by much craft and cunning, leaving a good metal the result, which is like no other metal, but the art is not known to common men.' And in the next book, entitled the 'Magic of Salt,' he says: 'It is well that the vulgar understand not the good and great art of (decomposing) the destruction of salt, as, if it were known to all, riches would be no longer held rare, or even respected, as with this metal much gold can be obtained, and such great virtue doth it contain, that one piece of such size that will cover the top of the small finger will work wondrous magic throughout a great mass of such worthless stuff that no man would buy for the smallest coin; yet when this and other metals well known to all men, shall lovingly and speedily unite in one common mass, then the adored of all metals becomes life, and is born unto man, and true and real gold may be taken from those common metals without loss to them in weight or virtue, so that by great craft, cunning, and magic, not enjoyed by common men, good gold, never again to be lost, is transmuted from the vilest of dross; and so men may enjoy riches without prying into other money bags, or borrowing from those who have little to lend.' The next five books are upon digging into the earth for the calx of metal, and the rem inder upon the art of extracting and purifying metals and earths. I have chiefly selected these passages to prove that the alchemists, in spite of all their humbug and mistaken notions, often cheated themselves; and when they fancied they were making or transmuting gold, they were simply extracting it from ores or metals which absolutely contained it."

Atmospheric Resistance to Cars.

One of our contemporaries states, that at a recent meeting of the Boston Society of Arts, Mr. S. R. Calthrop demonstrated by experiment the value of an invention by which atmospheric resistance to railroad trains may be to a certain extent avoided. Bodies of various shapes were fastened to the end of a horizontal arm, which was made to revolve in a circle of fifty feet circumference by a uniform motive power. A pendulum beating half-seconds with a strong tick gave the audience a measure of the rates of speed at which these different bodies made ten revolutions. A box with an area of 22 square inches, perpendicular to the plane of motion, made the 10 revolutions in 51½ beats, while another box with an area of 68 square inches, similarly placed, made the ten revolutions in 80 beats. Then a box of the same size as the last, with a cone fitted upon each end, so that each apex was parallel to the plane of motion, made the 10 revolutions in 49 beats. Two pasteboard models, the one representing a railway train of the usual shape, the other representing a train of Mr. Calthrop's improved construction, made the 10 revolutions, the former in 60, and the latter in 48 beats, equivalent to the rates of 12.67 and 15.84 miles per hour. The members of the society were reminded that the atmospheric resistance increases as the square of the velocity, and the consumption of fuel as its cube; so that the importance of applying the principle illustrated is much greater at high than at low rates of speed. An account was also given of a successful experiment made on the Boston and Lowell Railroad with a hand-car fitted up so as to test the value of this improvement. Professor Pierce and the president expressed their confidence in the correctness and practical value of the results of these experiments.

Coal Statistics.

Sir George Grey has informed the House of Commons that the British Government is in correspondence with Sir Roderick Murchison on the subject of ascertaining the quantity of coal procurable from the English Coal Fields, and that it is probable the enquiry will be committed to the care of the Geological Survey and the Mining Record Office.

Mining Summary.

California.

Mariposa.—Recent correspondence of the *Mining and Scientific Press* states: Four and a half miles southwest of Mariposa are the works of the Eureka Quartz Company, at present in charge of Mr. J. J. Bruce. The company are working the veins located in a granite formation, just outside the northern boundary of the Mariposa estate. Messrs. Washburn and Bruce have been able to obtain a lease from the Mariposa Company on favorable terms, and are working profitably on both sides of the line. The vein for which the mill was originally built is known as the Catron vein, from the name of its former owner. Its strike is north and south, with a dip to the east of fifty-three degrees. The principal shaft is about one hundred feet deep along the inclination of the vein, which, in the works connected with this shaft, will average nearly two feet in thickness, and has paid, I am informed, from $25 to $50 per ton. From what is called the Dobbin shaft, on a spur of this vein, some very fine rock has been taken, paying, as I was informed, an average of $50 per ton. The engine of about four horse power, used for hoisting the rock from the principal shaft, is run by a Chinaman, one of the former owners of the mine, who shows all the intelligence and thoughtfulness of a first-class engineer. Chinese laborers are employed in almost every department of the work about this mine, both above ground and below, and Mr. Bruce expresses himself well satisfied with their services. The other vein lies about four hundred feet east of the Catron, and has not been worked by the present owners. The old works extend to a depth of sixty-five feet, throughout which the vein appears to be about two feet thick, and very well defined and regular. Rock taken from this is said to have paid $6 per ton. The mill adjoins the hoisting works of the main shaft. It consists of a battery of eight stamps, driven by a steam engine of sixteen horse power. Amalgamation is performed in the battery and on copper plates below, no amalgamating or concentrating machinery having been introduced. . . . On my return to Mariposa, I was shown a map of the famous Hite & Wynant's mine, lately made by the county Surveyer. The vein has been worked to within twenty-eight feet of the east line of the Hite claims, and at this point it is eight and a half feet wide, and pays over $80 per ton. . . . The Pine Tree Mine is paying, at present, better than at any previous time, the vein in the lower levels being about twelve feet wide, and paying, according to the estimate of the Superintendent, Mr. Dolan, about $15 per ton. It has been opened, within the past year, by a new tunnel, one hundred and forty feet below the old works. . . . At the Benton mills, Messrs. Brumagion and Hall, of San Francisco, are engaged in putting up machinery for the Ryerson amalgamating process, by which they have heretofore worked some of the Pine Tree rock with good success. The rock is first crushed between a pair of Cornish rollers, after which it is reduced to powder in a cylinder filled with two ounce cast iron balls, before being subjected to the super-heated steam and quicksilver in the amalgamator. They expect to be ready to start the works in a short time. . . . The principal copper mines of the Chow Chilla are located in a district of country lying in Mariposa and Fresno counties, about twenty miles below Hornitos, and extending north and south about fourteen miles, with a width of three or four miles from east to west, the formation being a siliceous mica slate or altered sandstone, in some of which are imbedded beautiful crystals of feldspar of great curiosity and beauty. But few of the claims have been opened to any great depth, but the surface ores of many are very rich. These are principally carbonates and siliciates with a small admixture of red oxide, and in some cases large masses of gray copper. But little ore has been shipped in its natural state from these mines, the long distance and scarcity of transportation and the irregular character of most of the ores interfering greatly with the profit of shipping. There are two smelting furnaces in the district which have been doing a very good business working the carbonates and silicates, which furnish from eight to twenty-five per cent. of pig copper, which assays from eighty to ninety-six per cent. . . . At James' Ranch Henry & Co. have a blast furnace, of the pattern described in Dr. de Heirry's articles on copper smelting, in California, with which they are able to reduce sixteen tons of silicates or carbonates daily. The ores worked thus far have averaged about twelve and a half per cent., and about twelve tons of pig copper have been shipped. The works consume about five or six tons of charcoal daily, costing $17.50 per ton, and employ eleven men, making the cost of smelting copper from twelve per cent. carbonates, from $75 to $85 per ton. The furnace is employed in smelting ores from the Lone Tree and Green Mountain leads. As yet, no permanent vein has been discovered at either place, though the prospects, especially of the Lone Tree, are very good, though it is probable that the vein will not concentrate until a great depth is reached. The general superintendent of the works is Mr. Wm. Nelson, of Merced Falls, and the furnace is under the immediate charge of Mr. P. Desormaux, formerly of Meader & Co.'s smelting works at Copperopolis. . . . At Buchanan Hollow, six miles below James Ranch, in the upper part of Fresno county, are situated the works of the Buchanan Company. The furnace here was erected by Messrs. Haskell and Philips. It is a simple cupola, such as is used in foundries for melting iron, but after a considerable amount of unsuccessful experimenting, has at last been brought to work to the satisfaction of its owners. Its capacity is about the same as that of Henry & Co.'s, and the amount of coal consumed daily about the same, though it has been run more constantly, and has, as I was informed by Mr. Palmer, one of the smelters, produced about thirty tons of copper. About six miles south of Buchanan Hollow is the Buchanan claim, owned by Messrs. Bachman, Winchell, Leach, Ashman and others, principally of Millerton. The company own six hundred and eighty acres of land by United States patent, which includes their mine. The course of the vein is nearly north and south, with a slight dip to the eastward, probably about thirty-five degrees. The shaft is about fifty-six feet deep, showing in the bottom a well-defined vein nine or ten feet wide, five feet of which contains much black oxide, and assays from eighteen to twenty-seven per cent. copper. Some of the carbonates from the surface were smelted by Messrs. Haskell and Philips, and yielded twenty-five per cent. of copper. As far as prospected, this is one of the best veins I have ever seen in the State. Another very promising vein is that of Green & Co., located two miles north of James Ranch. The claim is 1,750 feet on what is known as the Dozer, a vein, or series of veins, which has been traced through the district for a distance of nine or ten miles in a northwest and southeast direction, and showing fine indications of copper throughout its whole extent. Green & Co. have sunk a shaft on their vein to the depth of eighty-five feet, showing a vein varying in width from one to six feet, the ore being generally very rich. In the bottom the vein is about four feet in width, about two feet of which is solid gray ore.

El Dorado.—Correspondence of the *Mining and Scientific Press* states as follows: Leaving Placerville, the county seat and centre of the great mineral belt of El Dorado, I visited the mills and the mines, situated on a series of parallel lodes to the south, believed by many, from the striking similarity in the quartz and other characteristics, to be on a range with the celebrated Eureka mine of Amador; some of the veins giving marked evidence, both on the surface and at the greatest depths attained, of being at least as highly auriferous, with many signs of permanence. The first in this direction was the Mitchell, owned by Capt. J. D. Woodworth & Co., two miles south of Placerville and one east of Diamond Springs. The lode commences on the surface with a width of eighteen inches, and at the bottom of a shaft seventy-five feet deep, has gradually grown to four and a half feet, and even from wall to wall. An incline is now under way to strike the vein forty feet below water level and two hundred and fifty feet beneath the surface of the over-lying mountain. This location is one of the oldest in this part of the county, and is said to have averaged at one time about $85 per ton of quartz, which is considerably impregnated with pyrites and streaked with seams of black shale showing free gold at every degree of depth attained. The work is now being pushed forward with energy and determination under the charge of Capt. Woodworth, who informed me that a 20-stamp mill had been ordered for the mine. Such are the prospects, that many locations have been made on the extension or on the parallel lodes, some of which are worked with vigor, giving excellent indications. The next in order on the line of the supposed mother vein, deemed worthy of a special notice, is the Rogers, not so much from the amount of work in the way of development, as from the character of the quartz and other marks, indicative of a permanent and valuable mine. It is two miles southerly from Diamond Springs and one north of the Union mill, and has been opened at several points along its entire length of 3,000 feet, showing a well-defined lode at the depth of fourteen feet, from three to four feet in width, with a gouge of decomposed shale on the foot wall, the east or hanging wall being of greenstone. The quartz is what is here denominated the ribbon species, from the dark colored seams that run in horizontal layers through it, occasionally assuming the form of parallel waves. Little or no free gold can be seen with the eye, but the rock works about $9 per ton in the arastra, built on the claim, exclusive of what is contained in the sulphurets, which are worth $200 and upwards per ton. As it takes about twenty tons of the quartz to produce one ton of the sulphurets, it has been calculated, there will be a return from both sources of from $18 to $20 per ton, which will afford a handsome interest on the amount invested. Messrs. De Wolf and Baker are the sole owners. A quarter of a mile east, encased in slate, is the Spanish owned chiefly by these same gentlemen. The vein averages two and a half feet in thickness, and contains much free gold; in certain portions being exceedingly prolific, 500 lbs. of ore assorted, yielding at the rate of $4,000 to the ton. Such has been its richness, that its entire length near the surface, has been worked off by the Spaniards of the neighborhood, and like the preceding claim, has thus far paid all expenses incurred in sinking and tunnelling—no bad indications of a good mine. The next claim appearing on the line of this range, is that of the Church and Union Gold Company. Some of the internal arrangements about the mill, which are new, appear worthy of notice from their simplicity and convenience. A platform surmounted by steps encircles the battery at an elevation of ten feet from the ground floor, and nearly opposite the cams, from which the whole of the works can be very conveniently overlooked or superintended; the stamps, also, by a very simple arrangement, being instantly and simultaneously put into gear and as readily thrown out, by means of a lever connected with certain little props which rests with one end on the platform, and the other against the cams. For amalgamating inside the batteries, copper plates are used four feet by six inches, and are set at a particular given angle, found by the superintendent to be the best possible for the greatest percentage of gold. The pulp is discharged from the batteries through a perforated screen of Russian iron, containing 250 hole to the square inch, and then passes over three step copper plates, four feet two inches by seven inches. It thence falls from a screen in the form of a shower, into a box of mercury, seven inches square by nine in depth, containing about thirteen pounds of the quicksilver and filling it to the height of one inch, on a level with the discharge, which runs directly through copper plated troughs into the concentrators. This mercurial bath, as it is here called, while its cost is almost literally nothing, has worked very successfully. Sodium Amalgam is also successfully used. We close our description of this mine by a brief notice of the two principal veins. The

Union varies much in thickness, having an average of perhaps eight feet, and a shaft upon it of about 200 feet. The quartz contains a good deal of free gold, and is interspersed liberally with the small black sulphuret of iron. The Cosumnes is considerably smaller than the other, but far more uniform, and has a layer of black clay as a "gouge" on the hanging wall. The vein-stone shows less free gold and fewer sulpurets, and is said by Prof. Silliman to have "a remarkable resemblance to the well known Princeton vein," both as to appearance and contents, the quartz being more streaked than that of the Union, with seams of black shale, while the walls of each, as you may have inferred, are of black slate.

Shasta.—The *Courier* says: The Spring Creek Quartz Co. will commence next week to clean out their ditch—filled by the heavy storms of the winter in many places—and to put their mill in order, not only to crush rock of their own, but to do custom work. Work has been commenced by the Union Co., Lower Springs. The Pitch Pine Lode, near Whiskytown, and four and a half miles from Shasta, prospects better than any lode discovered in this district. Work will be resumed in a few days, and continued until the ledge is fully proved. At a meeting of the miners of Quartz Hill, Buckeye and Churntown, it was declared, by a large majority, that Chinamen will not be admitted to work in the mines east of the Sacramento river, in said county.

Sierra.—The Downieville *Messenger* says the Sierra claims, at Chancellorsville, for five weeks' run, cleaned up $2,700. . . . We have general good news from Howland Flat. The Hawkeye claims, at Potosi, are running the main tunnel ahead, and a few days since struck what they thought worth prospecting. Six car-loads returned two and three-quarter ounces. . . . A correspondent writes from Port Wine: Matters about our town are looking up again after a long suspense and rather gloomy prospects. The Gate, Erie and Monte Cristo claims are again paying well, and the prospects of other companies promise to follow suit in the course of the season. . . . Throughout the entire northern portion of this, and the south side of Plumas county, mining operations are very brisk, and the claims paying uniformly well—some of them extraordinarily. The yield of gold, it is thought, will exceed that produced during any previous year. . . . The Sears Union Water Company are about to extend their ditch through St. Louis and Port Wine to Scales' and Poverty Hill.

Tulare.—A correspondent of the Vidalia *Delta* writes, May 2d, as follows: But few of our mills are at work, but all are pushing their preparations with vigor, making roads, opening leads, preparing fuel and other material, and getting things in shape to work to advantage. Next week Pieper's, Rand's, Thomas', Marsh & Kennedy's and the General Grant mills will all be running, and we are expecting great results. McKidney & Burdett made a good thing of their purchase of the new lead known as the Jo. Walker. They have just sold a one-third interest for $2,500. They paid $3,000 for the whole. New lodes are being discovered every few days.

Lake.—Correspondence states that a company in this county are now sending up machinery to their sulphur claims below Lakeport, and will soon be prepared to turn out a refined article of that mineral, which is found, in a crude state, in inexhaustible quantities. They intend to carry on the refining and sublimating of sulphur on an extensive scale. . . . The *Register* says: The company owning the Borax mines have made extensive preparations for taking out large quantities of borax this season. This mineral is dug, in crystallized masses, from the bottom of Clear Lake, where it is deposited by springs. A large movable coffer dam is sunk in certain parts of the lake, which, on being pumped dry, allows the workmen to search the muddy bottom for borax crystals. These are afterwards purified in vats and pans, and sent to San Francisco via Napa City. Thirty teams will soon be running between this place and Clear Lake for the transportation of this mineral, making weekly trips of a ton to a load. The building of Mr. Gregg, called the "Gymnasium," has been rented by a Borax Teaming Company for the accommodation of animals to be employed in the above service.

Placer.—The Auburn *Stars and Stripes* has the following mining items: The proprietors of the Taylor ledge, which is situated a few miles below town, close to the railroad, have sent a ton of rock to San Francisco for a working assay. The ledge is from two to three feet thick, and the decomposed rock, when panned out, prospects well in fine gold. . . . The Swell claim, an extension of the Taylor recently located, prospects well, but we have not learned that any regular work has been done on it as yet. . . . A ledge near Millertown, which in 1854 paid well by the hand mortar process, was re-located, on Monday last, by an enterprising company, who have already commenced energetic operations upon it, and expect to send some rock to mill in a few days. . . . A correspondent informs us that a vein of copper from one to four feet thick has been struck in the old shaft of the Baker & Crosby claim. . . . The miners of Gold Run and vicinity are taking steps to protect their interests on the reservation of the Central Pacific Railroad Company.

Plumas.—Recently, for two days' washing, says the Quiney *Union*, the Monitor Company, at Saw Pit, cleaned up 155 ounces. The Eagle Company, in two days, realized 106¼ ounces. The New York Company, for six days' washing, took out 510 ounces. New and extensive diggings have been discovered near the Willow Ranch, between American Valley and Nelson Point, which prospect well. Several companies are at work opening up their claims. . . . Throughout the entire northern portion of this and the south side of Plumas county, says the *Mountain Democrat*, mining operations are very brisk, the claims paying uniformly well, some of them extraordinarily. The yield of gold, it is thought, will exceed that produced during any previous year. Already money is much easier, though but few companies have made a full washing. The weather continues favorable, being cool, with occasional showers. Vegetation is getting on splendidly.

Amador.—There is an increased movement of mining operations in this county. We understand, says the S. F. *Mining and Scientific Press*, that the Pennsylvania company lately struck a rich spur (leading to the main vein) which contains both gold and silver, some of the rock being judged as good as the best Comstock ore. The gold is visible in grains varying from the size of a pin-head to a pea. The present season seems likely to prove up this important district. . . . The Belden mine, says the Amador *Ledger*, located about ten miles southeast of Volcano, is producing a large amount of gold, considering the facilities for crushing the rock. They have a little mill of five stamps, and with this they are crushing from four to five tons of rock per day, which yields, on an average, $110 to the ton. . . . The *Ledger* of May 5th has the following items: We learn that the Vaughn claim, at Pine Grove, is yielding very rich rock. Last Tuesday they "struck it" richer than ever. . . . We learn that work will soon be commenced on several of the copper claims in the Forest Home district. Among those mentioned are the Exchange, Mountain and Star companies. . . . The hill claims of Elkins, True and others, at Forest Home, are still paying handsomely. . . . Mr. Benjamin Fenton has been sinking a shaft on the Spanish claim, about two miles from here. After sinking to the depth of one hundred feet or more, he commenced drifting, and during the past week struck the ledge, and is taking out some very rich rock. . . . The Ione City copper mining company, whose claim is located on the celebrated Newton lode, have struck a vein of very rich ore, equal to the best found in that district. The stock in this company is now looked upon as a good investment. . . . The *Dispatch* has been shown a very rich piece of quartz rock, recently taken from the Golden Eagle claim, about one mile from Pine Grove, in this county.

Yuba.—A late correspondent of the Marysville *Appeal*, writing from Smartsville, under date of April 20th, gives a description of the Blue Gravel claims, now becoming famous, and he indulges in some speculations in regard to the origin of the formation in which it is situated. We quote a few lines: "The appearance of the country, the nature of the gravel-beds—petrifactions—conglomerate character of the soil, traces of aqueous action on the bed-rock, all lead to the conclusion that these mines occupy the bed of some ancient river, whose level line has been, by some terrible convulsion, not raised up, but filled in. Why not raised? may be asked by some. Simply from the fact that if the bed had been raised, the gold-bearing dirt would be as much on the surface as in any other point, which is not the case. The pay dirt is not discovered until the depth of some hundred feet has been reached. Lying along this ancient bed are the following claims: Creary's, Blue Gravel, Pittsburg and Yuba River Company, Shamrock and Taylor's claim, in the vicinity of Smartsville, while the same indications are continued through the various claims near Timbuctoo, which were in earlier days so famed and rich." Most of the companies here named have gone to work in earnest. The last run for the Blue Gravel, $50,000 for thirty-five days. The writer witnessed a mammoth blast, in which three hundred kegs of powder were used.

Tuolumne.—The Sonora *Democrat* says: we have visited Jamestown, Poverty Hill, Yorktown and the Golden Rule quartz claim, located half a mile below Poverty Hill. The mill runs 15 stamps, and has all the modern improvements; $8,000 were taken out the first run of fifteen days, and we believe considerable more has been realized from the last run, which was cleaned up a few days ago. The company crush ledge and quartz together to the width of eight feet. This vein was purchased, some time ago, by San Francisco or New York capitalists. The veins around Quartz Mountain are all paying remarkably well. The old Applegate takes the lead. This vein too, we hear, has been sold to capitalists for a big round sum—$140,000.

Santa Clara.—We learn that the difficulties at the Almaden Quicksilver mine have been settled, and that the company will soon resume work.

Alpine.—The Silver Mountain *Bulletin* says of the Pennsylvania company: "The upper tunnel is now in 200 feet, and has been run parallel with the ledge on the east side, having cut across it three times in that distance, each cutting having shown an improved appearance in the vein stone. The last cutting occurred the present week, revealing a solid ledge of full ten feet in thickness, and the quartz glittering with the ruby." . . . The lower tunnel is now in 260 feet, but from present indications, ore sufficient can be obtained from the upper tunnel to keep a 20-stamp mill in operation for two years; the lower one can then be gradually driven in, so as to tap in time to keep up the supply. The Winchester, having delayed too long their timbering, have had a cave, which will retard the work for weeks.

Butte.—Great excitement exists in the vicinity of Cherokee, in consequence of the discovery of silver ore, which is said to assay as high as $270 to the ton.

Calaveras.—The *Courier* says: In one year hence the Keystone, which is believed to be as good as the Union, will take its place among the great paying mines of the world. The Empire mine, though unprofitable at present, presents unmistakable evidence of permanence. The Calaveras, we are sorry to say, has been idle a long time, notwithstanding the fact that when worked, it yielded largely of first class ore. The amount of Union mine copper ore shipped from Stockton to San Francisco since the 1st of January last, is 2,349 tons, 1,087 pounds.

Fresno.—The copper mines seem to be attracting the attention of miners and speculators. Many are of the opinion that the region will prove richer than Calaveras county.

Nevada.—A correspondent, says the Nevada *Gazette*, gives the following estimate of the gold product of this county for the present year: From quartz mines in

Grass Valley Township	$3,000,000
Nevada Township	1,000,000
Other Localities	500,000
Cement Mining	500,000
Placer Mining	4,000,000
Total	$9,000,000

This amount is more than one-half the entire product of the mines of the State of Nevada for the year 1865. . . . . The *Transcript* of May the 18th has the following items: Along both sides of the Yuba, from Washington to the Tecumseh mill, a number of excellent quartz leads are located. As yet little prospecting has been done, but the indications are of the most flattering character. The Fidelity Company's claims are located on the river, opposite the Tecumseh. This ledge is much the same in character as the Tecumseh, and good pay has been obtained from the rock. No work has been done on the ledge this Spring, but operations will soon be commenced. The Marvin Company have taken out one hundred tons of excellent rock, and will soon build a mill. An arasta is being erected on the Albion ledge. This lead is six feet wide. Pendleton & Co. have located an excellent ledge on Canyon creek, and are taking out some splendid rock, containing much free gold and lots of rich sulphurets. The entire country from Washington to Eureka and the State line, is filled with large ledges of quartz, many of which will yet rank as first-class mines. This section offers as good a field for prospectors as any in the State. . . . Recent developments show that the Placer mines in this vicinity are still rich, and many of them are yielding handsome returns to the owners. The Manzinita Hill claim turned out last week, over $1,200. The Lost Hill claims, at the first clean up, yielded $7,000, and are still paying well. Back of Cayoteville, a deserted claim, which was given up for a debt of thirty dollars, after a run of four weeks, yielded over $5,000. The expense of tsking this amount did not reach one hundred dollars. Many companies at Gold Flat and other places near Nevada, are making excellent runs. At Blue Tent the miners have been very successful in gravel claims. Last week the Sailor Flat claims after a run of seven days, yielded $4,500. The Last Chance, adjoining this claim, and others in the vicinity, are making excellent runs. . . . Quartz prospecting is prosecuted with energy in the vicinity of Rush Creek, and within the past three months several valuable ledges have been opened. These ledges contain a large amount of specimen rock. The same paper of May 15th says: The Tecumseh ledge promises to be one of the best in this section of the State. We have before us a dozen pieces of rock picked up from a pile thrown out by a blast. Every piece contains free gold thickly scattered through it, and is rich in sulphurets. There is a strata of just such rock in the shaft, fifteen inches wide. The whole width of the ledge on the surface is fourteen inches. A shaft has been sunk sixteen feet, at the bottom of which the vein is from four to five feet wide. The Tecumseh mine was located and a mill built some two years since, at a cost of $12,000. Rock was taken out which paid $22 50 to the ton. From some cause no returns came to the stockholders, and many became discouraged and sold out. The parties now owning Tecumseh stock will soon be getting large dividends from the mine. Their success will give impetus to prospecting in the vicinity of Washington, and the result will be the opening of other valuable mines. . . . A rich deposit of gold was struck on Saturday last in the Yellow Diamond ledge. This lead is located about three-quarters of a mile beyond Chapman's ranch, on Rock Ravine, near Rush creek. It was first located in 1858, and a pocket was found from which $6,000 was taken. The company worked some time without much encouragement, after the pocket was exhausted, and abandoned the claim. It recently fell into the hands of Ragan & Co. They ran a tunnel into the hill, tapping the ledge about twenty-seven feet from the mouth, where it was three and a-half feet thick. A blast was put in and two wheelbarrow loads of rock thrown out, which it is estimated will not yield less than two thousand dollars. . . . The Utopia ledge, says the same paper of May 13th, is located upon Gold Flat. Some two years and a half since this claim was worked, machinery was erected, and after expending between ten and twelve thousand dollars, work was suspended, and the last rock taken out was left at the mouth of the tunnel. Since that time the owners have only done work enough to preserve their title. A few days since William Haslett, one of the owners in the claim, in a conversation with Palmer told him that if he would crush the rock on the surface at the Utopia mine, he might have the proceeds. Palmer accepted, and the rock, amounting to two tons and a quarter, was hauled to the mill. A clean up was had on Friday, and the result was thirty-two ounces of amalgam, worth $214. The company owning this mine, encouraged by this result, will resume work immediately, and will soon have out sufficient rock for another crushing. . . . Hunt's Hill, which but a few months ago was a deserted camp, containing a few dilapidated cabins, is rapidly assuming the appearance and proportions of a thriving mining town. Several new mills have been built, and others are fast approaching completion. The cement claims now being worked are paying well, and encouraging prospects are obtained from all. Hagadorn, Larkin & Co., are doing well at their new mill. The Gougeye Company have just completed a splendid eight-stamp mill, which was started last week, and works splendidly. The Eastern Company have machinery upon the ground and will soon have a mill of the same description as the Gougeye, ready to commence work. All these companies have struck the blue cement channel and have an abundance of rich pay in sight. . . . The same paper of the 10th ult., says: Quartz prospecting has revived in the vicinity of Newtown within the past month, and several ledges have been opened in which the indications are excellent. The shaft on the Mountain Queen has been sunk to the depth of thirty feet from the surface. The ledge is two and a half feet thick. No rock has yet been crush-

ed, but excellent prospects are obtained in a hand mortar. Another ledge, recently located, has been prospected to the depth of forty feet. The rock shows considerable free gold and abundance of galen sulphurets. Many other claims are being worked with encouraging prospects. Owing to the long distance from mills but little rock has been crushed from claims in that vicinity. . . . The North Star ledge is one of the newly prospected claims, located near the French mill. The company have sunk upon the ledge about forty-seven feet, and have taken out thirty-seven tons of quartz. This rock was crushed at Palmer's mill and paid nineteen dollars per ton. This is excellent pay for rock taken out at such a depth. . . . On last Tuesday, May 8th, the Eureka Company, at Grass Valley, cleaned up 2,300 ounces of gold, worth $36,800. This was after a run of two weeks. The mine was recently sold for $100,000. The mill will be stopped for a time for the introduction of new and improved machinery. . . . The same paper of the 9th ult., says: A few days ago a ledge of quartz was located near the ridge above Gold Flat, and named Montana by the discoverers. The ledge is three feet and a half thick on the surface, and the rock is of excellent character. It showed no free gold but was filled with sulphurets. A sufficient quantity was taken off the croppings for a test, and the result is very flattering. The rock was crushed dry, and good, clean quicksilver used. The amalgam was retorted, and acid used to destroy all except the gold. The yield was eleven dollars and thirty-three cents to the ton. A contract was immediately let by the owners, and parties are now at work sinking a forty foot shaft through slate, for which they receive six dollars per foot. The surface indications are highly encouraging. . . . There are some nine or ten companies at work at Omega, and every one of them doing well. The diggings are all hydraulic, and are supplied with water from the new Omega ditch, which will now enable the miners to work the year round. These companies make a partial clean up every few weeks, but a general clean up is only had during the fall of the year. The town of Omega is livelier, and more business is being done than for years. . . . On Last Friday, in Binsley & Co.'s gravel claim, on Kentucky Flat, a nugget was taken out worth two hundred and five dollars. Several other lumps were found during the week, varying from eight to twenty dollars in value. . . . Considerable excitement, says the *Transcript* of the 8th ult., was created in town yesterday, on the subject of copper. Several more valuable ledges have been discovered, and a great many have left for the new field, on the dividing line of Nevada and Placer counties. It is rumored that one of the companies had been offered $70,000 for their claim, by parties from San Francisco. A gentleman informs us that this new discovery will most certainly rival the leads at Copperopolis, and he has examined the mines at both places. . . . The American Company, at Birchville, cleaned up on Saturday last, after a run of six and a-half days, the sum of $3,200, being an average yield. . . . A gentleman of our acquaintance invested some $400 in a lead a few weeks ago, and paid as much more for assessments. On Saturday last he was offered the sum of $13,000 for his interest. He refused to sell, believing if he held on a while he could get $20,000 or $30,000.

Excelsior District.—An enthusiastic correspondent of the Sacramento *Union* writing from Meadow Lake city, gives the following description of the town: "Meadow Lake city and Summit city are one and the same place. We must acknowledge that we were surprised to find a town of such proportions reared on the summit of the Sierra Nevada. There are about three hundred buildings erected at the present time, and although the snow is some five feet in depth, parties can be seen on all sides engaged in clearing sites for building purposes. Fabulous prices are being offered for lumber, but in vain, as it is impossible for teams to reach this place at present. As soon as the snow shall disappear, with the facilities for lumber which the many mills in this vicinity afford, Meadow Lake city will rise as rapidly as the Virginia of silver-land. It has often been predicted that at some period not distant a rich deposit mineral wealth would be discovered in the Sierra Nevada; and we have every reason to believe such predictions are about to be fully realized, and that the doors of an immense vault of treasure are being opened, the contents of which will astonish the world. . . . . The Nevada (Cal.) *Transcript*, of May 8th, says: Parties are arriving in town almost every day from the new quartz section, and all bring encouraging accounts. All the ledges, as far as prospected, promise exceedingly well for the future. Prospectors to the number of fifty per day are arriving at the various hotels in Meadow Lake city, and about the same number leaving. Our informant advises all persons owning property of any kind to get their machines to running as soon as possible. The snow is from five to seven feet deep, but is lessening in depth each day. Last week it melted away very rapidly. On several ledges mills will be put up at an early day, and very rich developments are looked for in the vicinity of the Enterprise, Red Mountain, Old Man Mountain, as well as around Meadow Lake. The wealth of this section is no longer a matter of speculation and doubt, as rich ledges as have ever been found in the State, and probably in the world, have been discovered here. Some of these ledges are of enormous size and the facilities for working them are good. All well defined veins, which will pay even moderately, will be saleable the coming summer, and many a ledge will be sold at a fabulous price. One thing we state on the most reliable authority, and that is, that not a single ledge has been in any way prospected which has not been found to contain gold in paying quantities. . . . . From a party just arrived from Excelsior we learn, says the *Enterprise*, May 12th, that the road as far as Webber's Station is as good as could be desired, but from there to Meadow Lake—ten miles—the road is in very bad condition, being almost impassable from the snow melting, making traveling over it very difficult for animals, and in places where it has melted off the ground is very muddy. A week or two of good weather would soon make the snow and mud vanish, however. In the town of Meadow Lake the snow was five feet deep. Parties were busily engaged in clearing away the snow from their lots, preparatory to building as soon as lumber can be obtained. High prices are being offered for it; but as it is almost impossible for lumber teams to get in at present, and as there is none in the market, builders will have to wait for passable roads before they can obtain that desirable article, for money cannot purchase it just now at any price. The mine owners who are in the district now feel highly elated at their future prospects in the now known richness of their mines, from the many recent assays and mill workings of their rock, with results which have gone far above their most sanguine expectations. Quite a number of hotels and restaurants are in the course of completion, intending to get ready to accommodate the great rush that will surely go into that district this summer. Our informant states that a Stock Board has been organized there, with A. C. Wightman for President, F. F. Patterson for Vice President, George F. Vosburg for Secretary, and E. H. Perkins for Treasurer. An assay office has been started by W. Luebbert & Co. A banking house will be opened as soon as a suitable building can be obtained, by Moore, Hall & Co. The express of Wells, Fargo & Co. is already established, and in full operation. The proprietor of the Dutch Flat *Enquirer* will soon issue a paper at Meadow Lake, to be called the Meadow Lake *Reveille*. A pack train is running regularly between Polley's Station and Meadow Lake, and it is stated that another line is about to be put on from Nevada, which will run through the town of Baltimore, which place it is thought will be one of the main points of the district, being situated among and surrounded by many very promising claims containing gold, silver and copper. The town location of Baltimore was made last July, by A. C. Wightman and Charles A. Parker of this city. Several lots have already been sold to parties who intend to erect buildings for business this summer. The different quartz mills in the district will soon be ready for a start again, as the necessary repairs are now nearly completed; and from their crushing high anticipations are expected to be realized by the owners of the rock which will be worked on the first run, as the rock which is to be operated upon assays all the way from $50 to $400 per ton. The weather in the district at present, is reported as mild and pleasant, and the snow is fast disappearing. . . . . The following is from the *Enterprise*, May 4th: A body of very rich ore has recently been struck in the Knickerbocker ledge, belonging to the California Company. It is estimated that the rock that is now being taken out will yield upward of $500 per ton. Considerable excitement exists in that direction at present, in consequence of this rich development, and parties are busily employed in looking up their claims in the immediate vicinity, and are taking means to fully preserve all their rights and titles thereto. The arrivals in the district are about on an average of thirty daily. None of the mills are running at present; they have stopped to make some necessary improvements. The material of the newspaper which is to be started at Meadow Lake, is being packed in by Chinamen. A portion of the press, which weighs 500 pounds, is carried on long poles by forty of them.

Nevada.

Pahranagat District.—The *Vedette* (Salt Lake city, Utah) gives the following particulars concerning this district: The Pahranagat silver mines are situated in the southwestern corner of Utah or the southeastern corner of Nevada, about 400 miles from this city and 125 miles from Callsville Landing, the head of navigation on the Colorado river. Pahranagat Valley is a well-watered, fertile tract, about thirty miles long and one mile wide, and the mining district, which is about seven miles square, is ten miles west, up a gradual ascent, over which a fine road is being constructed for the transportation of ore. These mines were first discovered in March, 1865, by a party of prospectors from this city, and up to the present time over 250 permanent, reliable ledges have been taken up, in which the crevices average about four feet in width. The result of over 250 assays of surface rock give an average result of from $225 to $250 to the ton, and some assays of rock which was nearly pure antimonious sulphurets, go as high as $2700. No mining district in the country is possessed of better resources for the working of the mines. The climate is such that operations can be continued the entire year. Mountain timber of the best quality abounds; the finest kind of anthracite coal is found in large quantities ten miles distant; while eighty miles south there are several mountains composed entirely of the finest quality of rock salt. Plumbago, and almost every article used in working minerals, are found in great abundance in the vicinity of the mines. At Doty city, which is immediately at the mines, water has been found sufficient for mining purposes. Capt. Dahlgren, Dr. Conger and several other gentlemen of high scientific merit, started for Pahranagat a few days since, and at the present time negotiations are being made for the erection of a large number of mills and furnaces the present season. Another proof of the richness of these mines is the fact that every miner is desirous of developing, rather than selling his claims—a policy which is amply justified by present indications. . . . . Nothing has been heard of the Blasdel party.

Black Rock District.—The excitement concerning these new mines, says the Chico *Courant*, continues to increase as the mines are developed, demonstrating their almost fabulous richness. We could hardly believe the reported richness of the Poorman's ledge at Owyhee, though based upon the declarations of those whose veracity was beyond question—an eye witness who saw the rock hauled to the mill, and the silver bricks hauled away, stating that 125 tons of Poorman rock worked $300,000; but this appears to be nothing compared with the Black Rock mines. Assays have been made which ranged from $1,000 to $10,000 per ton. These mines are situated directly on the Chico and Idaho stage route, about half-way between Chico and Owyhee, being about 200 miles distant. The character of the mines resemble those of Owyhee, and in fact appear to be of the same class, if not a continuation of the same. . . . . The same paper of May 12th says: Groves brought us a specimen from the Independent Quartz ledge, located at Mineral Slide, about 15 miles from Chico, on the Chico and Idaho road. The specimen will weigh about three or four pounds, and is completely impregnated with native gold, visible to the naked eye, besides being rich in chlorides of gold and silver. This specimen was taken out at a depth of twelve feet, where the ledge is nearly eight feet wide.

Colorado.

EDITOR JOURNAL OF MINING:—*Sir:* Of the richness and almost unlimited extent of our mines, there can be no doubt. That we have thousands of lodes which will not pay for working, is equally true. But, after deducting these, there remain enough to employ millions of miners until the world shall no longer want or need gold for a circulating medium. During four years of our existence as a mining district, out of seven, the country was in war. This took 3,000 of our workingmen, principally miners. Twice during that time flour has gone to $40 per barrel, and once to $80. Potatoes have never been below $3 50, and then they were worth nothing. The Indians have preyed upon our commerce two years, almost unnoticed, and certainly unpunished. To this may be added the grasshopper plague for two seasons, at the very time all the other causes were operating. The result was high labor and high living, and stopping of mills. Our miners went to prospecting and other employments, and time will be necessary to get fairly to work again. The organization of new companies, with new managers and untried machinery, has been a terrible drawback to Colorado—a lesson which eastern capitalists will remember with a twinge of the pocket nerve these many years. Many of us thought those Yankees and sharp dealers in money were too smart to be caught paying, as one man tells me, two hundred thousand dollars for the privilege of prospecting; or send out thousands of pounds of iron, not worth five cents per pound on arrival. The reckless waste in this was enormous. Taking all these considerations into account, is it not wonderful that we should have sustained ourselves at all? But the crisis is passed, and we are again in the ascending scale. Until we can have railroad connections, our agriculture is a rival interest of the mines. For, while we concede that mining gives all the value, cheap labor and cheap bread are conditions of successful mining at present. I am prepared to announce, from the amount planted and sown, and the appearance of the crop, that Colorado will need no more corn or flour from the States after harvest; and that without some mishap, no more until our population exceeds one million, if not more. For we have the land and water to produce of staples an ample supply for that amount of people. As common, until the railroad comes, farmers will enjoy a monopoly, and get higher prices. It will add greatly to our prosperity to be able to supply our own staples, and invest the surplus thus produced in manufactures, and the surplus here saved in others, and so on to the end.

J. B. WOLFF.

The Black Hawk *Journal* of May 28th (?) says that the Perigo Company, located at Gold Dirt, will shortly resume work, and that Judge Dickinson will immediately commence operations in the mines, and in the mill using a Dodge Crusher. Col. Tannatt has commenced the erection of a Keith furnace in the Manhattan mill building.

Michigan.

The Portage Lake *Mining Gazette*, of May 31st, gives figures relating to the product of the Calumet from January to the break-up of the roads in April, a period of little more than three months, and adds that the deposit is the most wonderful in point of richness known in the country. Sufficient has been done to place the width of the vein at thirty feet. The total amount of rock taken out and delivered at Portage Lake was 516,044 pounds, the yield of which in ingot copper was 73,711 pounds, showing a yield in ingot of 14.27 per cent., not including the reduction of about twenty-six tons of slags, which, we learn, are now being reduced. The product of the slags will probably raise the yield to about 15½ per cent., which would give a product of 6,100 pounds of ingot copper per fathom of ground stopped! The product was derived from experimental trials made by Mr. Hulbert in order to ascertain the most profitable mode of treating the rock. The trials and their results are as follows: 87,523 pounds of rock were smelted, without any previous preparation by stamping or washing, and produced 19,306 pounds of ingot copper, equal to 22.28 per cent., or 8,912 pounds per fathom of ground. There were washed and stamped at Albany and Boston mill 86,986 pounds, producing 13,696 pounds ingot copper, equal to 15.74 per cent., or 6,296 pounds per fathom. There were stamped at the Franklin mill 334,374 pounds, producing 40,965 pounds ingot copper, equal to 12.24 per cent., or 4,896 pounds per fathom. To this must be added the product of the 26 tons slag, which will somewhat increase the percentage per fathom. Taking the three lots to be a fair average, the loss by stamping and washing and the gain by smelting alone is:

Albany and Boston and Franklin mills, average	14.27 per cent.
Adding for slags will make the average	15.05 "
Smelting, without stamping	22.28 "
Loss by stamping	6.78 "

equal to 135½ pounds per ton of rock, which at 25 cents per pound net would be $33.90, and adding to this the cost of stamping and washing, barrels, etc., say $3.50, would make a total of $37.40. Deducting from this the liberal estimate of 10 per cent. for improvements in washing and the chances that the smelted rock may have been richer than that stamped, we still have $22.44 in favor of the smelting process. We have no doubt but that the rock could be smelted for about $15 per ton, which would, according to the above figures, give a balance in favor of smelting, say $7 per ton, or $140 per fathom. A "Cornish Agent," writing to the Portage Lake *Mining Gazette* on the improvements necessary for making copper mining remunerative, says that the principal one needed is good roads over the short and

naturally well-graded routes between the mines and the harbors; that more money is expended for teaming in the course of two or three years, than would thoroughly effect this improvement. Clearing up some of the best pieces of land on each location, so as to grow hay and oats for the horses, would also be found economical. Another important item is the kind of machinery used. The average consumption of fuel under the boilers is at present twelve pounds of coal, or its equivalent, per horse power per hour. The average consumption in all the mines in Cornwall is 2½ to 3 pounds of coal per horse power per hour. Thus a good engine would entail the dispensing with three-fourths of the wood choppers, wood teams, and all the firemen, besides making a saving in wear and tear. . . . The Keweenaw *Times* has the following: The 20 fms. level at Copper Falls is now in 235 feet, and is well charged the entire distance, with stamp and barrel work. The 40 fms. level has been driven south 300 feet. Most of the mass copper shipped has been taken from this level. The largest mass found in and taken from this level, weighed 13 tons. The 60 fms. level has also been driven south 350 feet. A large mass, 4 feet thick, and at one point 14 feet in height, is found in this level. This is the exact dimensions of the mass, so far as at present exposed. Efforts to blast into it at six or seven different places have been made, but all to no avail. A keg of powder was placed behind it also, but its explosion did not stir it in the least. This mass, so far as it has been uncovered, appears to be perfectly solid, and should it prove in the event to be so, it will, we believe, be the largest solid mass of copper ever found. Opposite this large mass, sheets of copper are exposed, some of which will weigh at least half a ton. The stopes on the Ashbed are at present unusually rich. They are now at work sinking a shaft from the surface to the adit, directly over a winze leading to the 60 fms. level, with a rise against the adit of 62 feet. This winze it is the intention to enlarge into a shaft. There is at present about 28 feet of ground to remove before the connection between the shaft and winze is complete. The shaft proper will be completed by the 1st of August, from the adit to the 60 fms. level. When this shaft is completed they will then have opened and ready for stopping, 2,000 fms. of ground. Should half this ground yield as well as that in the 40 fms. level, 1,600 pounds of mineral or 1,200 pounds of ingots, to the fathom, it will yield at least 600 tons of copper. It will be seen from the foregoing that the developments at this mine have completely overturned and rendered of no effect the statements made by eminent scientists, that no copper could be found north of the Greenstone. We shall watch with interest the developments at this mine, for they most certainly mark an epoch in the history of mining on Lake Superior. It is a noticeable feature, and one from which the Northwestern Company may derive incalculable good, that this mass prodncing ground passes directly through and across their property. Another feature connected with the operations of this mine is found in the fact that they have concluded that coal is a better, as well as a cheaper, form of fuel to use for mining purposes than wood. When we reflect that their consumption of wood is about 800 cords per month, costing about $3 50 per cord, and that coal is only $7 per ton delivered upon the dock here, and one ton of coal is, for all the purposes of power, equivalent to 3½ or 4 cords of wood; we see at once that it is more economical for them to use coal for fuel than wood. The brig David Morris, from Cleveland, now lies at the dock unloading a cargo of coal for this mine. The time, we apprehend, is not far distant when the residue of the mines in this district will follow the example set by Copper Falls. . . . The Lake Superior Silver mine, in the Upper Peninsula, is now being successfully worked, yielding 600 pounds of mineral per fathom. The veins are strongly charged with lead and pyrites of iron. The assays show a yield of from $53 to $164 in silver per ton. Silver is found in many of the copper mines. The Minnesota mine, in the Ontonagon district, yields $1,000 worth per year.

Montana.

Correspondence of a Montana exchange states as follows: Forty miles due east from Helena is Confederacy Gulch, which, with its several tributaries, is both extensively rich and richly extensive, in gold dust and in nuggets. Diamond City is its chief town, of two thousand population in the "city and surroundings." Here is to be one of the most money-making mining sections of the country, this summer and next. Forty miles from Helena lies Ophir Gulch, whose chief town is Blackfoot City. Thirty miles southwesterly, in the great Deer Lodge Valley, stands Deer Lodge City, or Cottonwood, as it is sometimes called. Still farther south, towards Virginia City, is Silver Bow City, with rich mines adjoining. Fifty miles west of Blackfoot City lies Elk Creek—the last great gulch camp of Montana. Here, and in the surrounding sections of Big Bear, McClellan and Deep Creek Gulches (all of them over the main Rocky range) there are already ten or twelve thousand prospectors and miners, and the cry is "still they come," particularly from the Pacific coast. Reynolds' City, and Yerka City, both on Elk creek, are growing places. Here will be the great Eldorado of the season. There is gold in generous quantities all through the gulches, from the Blackfoot to the Hellgate, thence up to the Big Bend and British Columbia. In Idaho and Montana, as well as in Utah, it will very soon be seen that there are genuine lodes of silver and gold, apart from the gulches. What is wanted most is persistence and capital wherewith to buy the mighty crushers and open the red eyes of furnaces for transforming those ribs of quartz and sinews of silver into the treasury of the country. What is wanted for this Territory the most, is a direct outlet to the States or the Pacific; a railroad or good wagon road to the Missouri east, and at the same time a good thoroughfare to the Pacific. A telegraph and fast express line, for the dispatching of both words and wealth to either coast, is sorely needed nowadays all through Montana. Whether the boats shall stop at Muscle Shell or succeed in reaching Fort Benton, for the season, is a question to be settled during the season; but, in either case, considerable facilities will be found for the transportation of merchandize and machinery on wagon roads now opened between Helena and either wharf referred to. . . . A correspondent of the *Post* writes from Blackfoot, April 10th: Already a few of the more favorably located claims have commenced washing, and invariably with results highly satisfactory. Ophir creek will be worked for miles above and below town, and the creek undoubtedly contains many rich claims. The mines on Carpenter's bar and Prairie gulch are considered by many to be the best in the vicinity of this place. Several new discoveries, both east and west of Blackfoot, have been made during the winter, and between Snowshoe and Little Blackfoot creeks, two new districts have been formed. A ditch has been surveyed and, I understand, will be prosecuted to completion as early as possible, to convey the water from the latter sufficiently high to cover the new diggings. There is a large scope of country between these two streams that prospects well, and only remains untenanted from the want of water to work the ground. . . . From No. 8, below Discovery on McClellan gulch, $12,584 were taken last week, the result of five day's run with one string of sluices. I am also informed that $3,744 was cleaned up from a single day's run, on the same claim since. This, considering the disadvantages of working at this season of the year, is pretty good, even for Montana. . . . It is said that Greathouse & Kelly are about starting a line of stages between Boise and Helena. . . . The *Post* of April 21st says: The Nelson Mining Company got up steam at the Hotel de Murph, on Thursday afternoon, and both engines worked admirably. A considerable number of citizens witnessed the first performances of the hose on a bank of refuse dirt, and all seemed pleased with the highly effective action of the stream directed upon it from the nozzle. The miners are as busy as bees in July, all along the gulch. The gold is as yellow as ever, and just as tempting. . . . We learn from a reliable source, that a dry gulch has just been discovered between Bivens' and Harris' gulches, which bids fair to be rich. It was discovered by Mr. Huffaker, of Bagday, in Bivens' gulch. The gold is coarse, weighing from fifty cents to two dollars to the piece. The first day Mr. H. panned out fifteen dollars. Quite an excitement exists in that vicinity. It is proposed to extend the Ramshorn ditch, so as to bring water into the gulch, and this will be done as soon as the frost gets out of the ground sufficiently. . . . A correspondent of the same, at Pipestone, says: Some new lodes have been opened this spring. One called the Clipper, struck by Messrs. Garrett & Kipp, is about five feet in width, and is undoubtedly a rich lode; nearly all of the rock shows free gold. A tunnel is being run into the Emigrant, and the ore bids fair to go ahead of any other in the Park.

Arizona.

The *Reveille*, of May 15, says: We have information that a powerful company has been organized for the purpose of entering the land of the Apaches—distant and golden Arizona—to explore for mines, both of placer and quartz. The movement seems to be quite extensive and systematic, as we learn that a company has been raised in San Francisco, two in California at large, and one of about thirty men here in Austin. It has been arranged that the members of the different companies may start when they please and as they please, to meet at Callville or Prescott, where they are to unite on the 25th of June. The company of Austinites is under command of Capt. J. R. Wood, and many of them have already set out for the Colorado. The accounts from that territory are not particularly flattering as far as golden placers are concerned; and the following statement of the yield of placers as well as of gold and silver lodes, taken from the Los Angelos *Star*, is the best we have seen: M. Goldwater arrived a few days ago from Arizona with about five hundred ounces of gold dust, taken principally from the Linn's Creek and Weaver district placer mines. Also, a large quantity of gold from the celebrated Vulture lode. This gold is very free from base metals, many of the nuggets being worth one hundred dollars each, and that extracted from the Vulture lode is considered worth seventeen dollars per ounce. Mr. Goldwater also exhibited a quantity of silver bricks from the Patagonia silver mine, belonging to Mowry & Co. . . . . One hundred tons of copper ore from the Planet had reached the mouth of the Colorado, and was to be re-shipped for San Francisco. The ore is said to sell in this city for $220 per ton. It is said that a company is to be formed in San Francisco for the purpose of exploring Arizona in search of that mountain of decomposed quartz, reported to have been discovered by the three men who escaped from their ten Indian captors, after having been in their hands for ninety-four days. A fully armed body of men, numbering one hundred, is willing to beard the monster Apache in his den, on the strength of the story. . . . . A correspondent of the *Flag*, in a letter from Fort Grant, says: "At various points along the Colorado river, gold has been found disseminating in the soil, some spots yielding rich, others nothing. Chimney Peak on the Colorado, was at one time a favorite locality. La Paz, one hundred and eighty miles above Fort Yuma, was, a few years since, a great attraction. It contained, in 1863, about eight hundred inhabitants. Water is scarce in all these diggings. Some Mexicans still make small wages in the vicinity by dry washing. Rich diggings were found on the Hassayampa, better known as the Weaver diggings, a few years ago, but they were soon worked out. In fact, it may be said, though rich placer mines of limited extent have been found in Arizona, no extensive mines of that kind have as yet been discovered. If any such exist, they are at present within the domains of the Apaches." A few weeks ago, the United States Marshal, Major Duffield, showed us some specimens of silver lead ores, argentiferous galena of great richness, taken out of the Santa Cruz mountains, east of the town. The ores of silver found in Arizona are argentiferous galena, native silver, auriferous sulphuret of silver, black sulphuret of silver, sulphate of silver and sulphate of iron combined. The gangue is usually quartz or feldspar. Copper mines are efficiently worked at different points on the Colorado river. Whilst many of these mines have and will prove failures, others from their accessibility to steamboat navigation will prove to be valuable. The ores of copper found in Arizona are usually the sulphurets, principally gray.

Idaho.

The Virginia City *Union* has received a letter from Silver City, Idaho, which says that the mines promise from what prospecting has been done upon them, to yield largely when they are fairly opened for permanent work. The letter speaks of a ledge forty feet wide, whose croppings assay $53 per ton, as being lately discovered near the city, and has been named the Gould & Curry, on account of its supposed richness and size. Another ledge has also been struck in that immediate vicinity, the rock from which assays $700 per ton. The writer speaks of a fine sale as having been made of the Orofino mine, and the Morning Star mill and mine for the handsome sum of $16,000, the purchase being made by a New York and English company of capitalists who will at once go to work upon and fully develop the mines bought, with a large force of men. The letter as a general thing is very encouraging in its remarks about the Idaho mineral country. . . . The *World* of April 14th, reports the new steamer on Snake river to be nearly completed. She will run between Old's Ferry, which has been removed twelve or fifteen miles down the river, and a point on Snake River, about thirty miles from Boise City, and thirty from Owyhee. The landing will be about sixty-five miles from Idaho City. . . . One of the claims of Moore & Co., on Buena Vista Bar, under the supervision of Charley Young, Esq., cleaned up this week, after four day's run, and weighed out about five hundred ounces. The claims along the bluff are generally doing well.

Oil Summary.

West Virginia.

Special correspondence of the *Oil News* reports the yield of Mining Springs Wells as follows: Sherman, 28 bbls. per day; Forrest, 30; Bakewell and James, 100; Jones, 120; Jones new well, 800; Toledo and West Virginia, 20; Apple Orchard, 10; Hoffman, 20; Van Winkle, 4; Old Reliable, 6. . . . . Gales Fork of Lick Run is becoming important oil territory. . . . . The best wells on White Oak are the Harkness, Atwater and Haines. The first yields 200 bbls. per day; the second 500 and the last 100. . . . . The Shaw Well on Gades Fork is said to be giving 200 bbls. per day. . . . . Mr. Antonia Pelletier, of Canada, has purchased the Jones oil well at Burning Springs for $70,000; also the Lewellen well at $50,000. . . . . We learn from E. G. Smith, President of the Kenawha Iron, Coal and Petroleum Mining and Manufacturing Company, of Putnam county, West Virginia, that oil of a superior quality has been obtained from one of their wells at the depth of 360 feet. . . . . The Parkersburgh *Gazette* says: Never in the course of oil developments in this section, has there been an excitement equal to the present; and never before has there been so good and substantial a foundation therefor. On the Volcanic Company's tract at White Oak, the Fox Tract Oil Company have commenced pumping their new well, on lot 3, at the depth of 280 feet, with a yield of ten barrels per hour. . . . . The Franklin and White Oak Company are ready to drill on Nos. 16 and 18, at the head of White Oak. They have pushed their work with great energy. . . . . The St. John Well, on lot 46, has been very greasy for the last forty feet. The Swann House Oil Company promises a permanent paying yield. . . . . On Mud Lick, the Baltimore and Laurel Company, have attained the depth of 140 feet in their new well, located a few rods above the one they have been pumping of late. Mr. Stowell, Superintendent of the company, informs us that the indications are better than in the first well. Barnum has a crevice at 190 feet, with a strong show. . . . . There is much activity along the Pike, at the foot of Sand Hill, three new wells having been started.

Pennsylvania.

The Pittsburg *Commercial* says: On the Central Petroleum Company's Farm, Oil Creek, lease 192, the wells are flowing 125 barrels each; wells Nos. 193 and 213, 100 barrels each; Breden well, 50 barrels. On the Stevenson farm a new well, on lease 18, is doing finely. The Crittenden Well, on the Wood's farm, is estimated at 200 barrels. On Bennehoff Run, the Coquette Well is yielding 200 barrels per day. No. 2, Homestead farm is flowing at the rate of 200 barrels, and increasing. Well No. 1, Marine Oil Company's well, is yielding 100 barrels per day. The activity on the principal farms on the creek is remarkable, and great results are expected.

California.

The Napa *Register* notices a curious discovery at the head of Capel Valley, about fifteen miles from that place, a ledge of white quartz, in which are small cavities containing petroleum—a spoonful or so in a place—here and there imbedded in the solid rock. A company, called the Alladin Petroleum Company, has been formed for the purpose of prospecting. Not long ago, quicksilver was discovered in the same vicinity, in a fluid condition, imbedded in quartz. Nature must be subject to spasms in that region. It is only necessary now for the geysers to commence spouting oil instead of water.

Utah.

Correspondence, dated Fort Bridger, May 2, of the *Vedette* states that there are two fine oil springs in Wind River Valley, one of which sends forth about one hundred barrels of oil per day, about the consistency of molasses. This spring is owned by Mr. Eddy, (telegraph operator at Fort Bridger) & Co. The other, also

a valuable spring, is owned by Judge Carter, of Fort Bridger, and others. The above-named gentlemen intend to improve their property with machinery as soon as easy transportation for the oil can be secured.

England.

The *Colliery Guardian*, June 2d, mentions the fact that oil, petroleum and pitchy fluids are to be found in various places in Shropshire, and adds: "These facts having caught the eye of an American gentleman, (Mr. Holmes,) who has had considerable experience in the oil-fields of his own country, and who at present is superintending the distillation of oil and other volatile matters from Ruabon, he has within the last few days visited the places alluded to, and has been favorably impressed with their appearance. Indeed, he does not hesitate to say that the appearances entirely correspond with those which led to the discovery of oil wells in America; and he is so firmly impressed with the belief in the existence of a large reservoir of this valuable fluid, somewhere in the vicinity, that he is entering into arrangements with a large landed proprietor, Lord Forester, to erect proper machinery for putting the matter to a test."

GOLD.

COMPANY.	SHARES.	STOCK.	SITUATION OF MINE.	SECRETARY & PLACE OF BUSINESS.
Acadia			Nova Scotia	H. W. Nelson, 24 City Ex., Boston.
Albion		$ 300,000	Halifax, Nova Scotia	H. W. Nelson, 24 City Ex., Boston.
Alps	100,000	250,000	Illinois Central Dist., Col.	J. Stanton, Jr., 25 Nassau, N. Y.
Ascot	50,000	5,000,000	Sherbrooke, Canada E.	G. H. Morrison, 17 Nassau, N. Y.
Atlantic				Chas. Barett, 13 Doane, Boston.
Atlantic & Pacific	50,000	5,000,000	Humboldt T., Humboldt co.	J. N. Sewall, 8 Broad, N. Y.
American	100,000	5,000,000	Gregory Dist.	
American Flag	60,000	600,000	Nevada Dist., Col.	H. Foles, 71 B'way, N. Y.
Astor	500,000	1,000,000	On Comstock Lode	J. Chapman, 71 Broadway, N. Y.
Baltic			Colorado	New York.
Bates & Baxter			Colorado	New York.
Bay State	200,000		Colorado	Lem'l Bangs, Boston.
Beaton	100,000	500,000	Colorado	F. W. Capen, 44 Ex. Pl., N. Y.
Black Hawk	50,000	5,000,000	Gilpin co., Col.	D. Littlejohn, 81 John, N. Y.
Beacon		500,000	Halifax co., Nova Scotia	J. B. Post, 20 Ex. Pl., N. Y.
Bobtail	100,000	1,000,000		J. Stanton, Jr., 25 Nassau, N. Y.
Briggs	10,000	1,000,000	Gilpin co., Col.	D. Littlejohn, 81 John, N. Y.
Bradshaw	250,000	1,000,000	Yavapai County, Arizona	O. H. Conover, 219 Dock st., Phil.
Burroughs	100,000	1,000,000		L. Bangs, 22 Pine, N. Y.
Bullion	200,000	1,000,000	Bannock, Montana	69 Liberty, N. Y.
Bullion Consol'n	300,000	300,000	Summit and Clear Creek, Col.	J. P. Whitney, 19 Lindall, Boston
Calvin	200,000	1,000,000	Clear Creek co., Col.	J. P. Whitney, 19 Lindall, Boston
Canadian				A. Call, 7 Phœnix B'l'g, Boston.
Chem. Gold & S. R				64 B'way
Ch. Un. Gold Co				69 Liberty
Chebucto	100,000	500,000	12 miles from Halifax	J. E. M. Gilley, Boston.
Clarendon		500,000	5 miles from Halifax	H. Doane, 41 State, Boston.
Chase	5,000	500,000	Colorado	W. E. Lawton, 81 John, N. Y.
Central Gold M.	20,000	1,000,000	Central City, Col.	L. Bangs, 17 Nassau, N. Y.
Central Mining	200,000	1,000,000	Colorado	46 Exchange Pl., N. Y.
Chandiere	100,000	500,000	5,000 A Famine Riv., C. E.	Wm. B. Fowle, Boston.
Cobden	100,000	1,000,000	Idaho	New York.
Colonial				W. N. Ely, 7 Trav'r B'l'g, Boston.
Colorado Boston			Colorado	R. C. M'Laughlin, 60 State, Bos'n.
Colorado N. Y.			Colorado	12 Pine, N. Y.
Coleman			Colorado	New York.
Columbia	30,000	3,000,000	Austin City, Nevada	10 Pine, N. Y.
Consuelo Gold				54 William.
Consol. Gregory	50,000	5,000,000	Gregory Dist., Col.	30 Pine, N. Y.
Cook & Kimball	1,000	150,000	Colorado	W. W. Baldwin, 35 Wm., N. Y.
Copdinshee	250,000	5,000,000	Parke co., Col.	J. C. Stocker, 137 B'way, N. Y.
Corrisannee	100,000	1,000,000	Colorado	New York.
Commonwealth			Nevada	Philadelphia.
Corrydoon	100,000	2,500,000	Gilpin co., Col.	46 Exchange Pl., N. Y.
Continental	20,000	2,000,000	Gregory Dist., Col.	115 Liberty, N. Y.
Central Gold	200,000	1,000,000		L. Bangs, 22 Pine, N. Y.
Dauphin & Colo.	200,000	1,000,000	Colorado	John S. McMullin, 423 Walnut, Pa.
Day & Bushnell	300,000	3,000,000	Colorado	T. Chalmers, Jr., 20 Ex. Pl., N. Y.
De Lery		10,000,000	Chandiere Valley, Canada E.	J. M. Winchell, 72 Cedar, N. Y.
Denver	50,000	1,000,000	Gilpin & Clear Creek, Col.	J. Wadsworth, 61 Cedar, N. Y.
Devonshire				W. Stockbridge, 74 Fr'klin, Bos'n
Downieville	300,000	300,000	Colorado	J. C. Harriott, 70 Wall, N. Y.
Dorset			Chandiere River, C. E.	F. McJimsey, 59 Wm., N. Y.
Eagle	100,000	1,000,000	Gold Dirt Dist., Col.	J. P. Davies, 81 John, N. Y.
East Bunnack	100,000	200,000	Bannack City, Montana	J. Callender, 48 Ex. Pl., N. Y.
Eldorado	500,000	2,500,000	San A Dist., 9 miles of Austin	208 S. Fourth, Phila.
Empire	250,000	5,000,000	Clear Creek, Col	H. K. Gates, 191 B'way, N. Y.
Empire Mill & M				O. F. Griffin, San Francisco.
Euriquetta			Arizona	New York.
Esperanza		500,000	Star D., Humboldt co.	117 Broadway, N. Y.
Etna	50,000	500,000	Nevada Dist., Col.	C. W. Bryant, Boston.
Excelsior	30,000	300,000	Central City, Col.	J. Weatherbee, Jr., 11 P. B'g, Bos.
Famine Falls	100,000	1,000,000		D. L. Dodge, 80 B'way, N. Y.
Garrisons	100,000	5,000,000	Colorado	C. G. Mease, 29 William, N. Y.
Gem	25,000	1,200,000		H. K. Gates, 191 B'way, N. Y.
Georgetown			Colorado	New York.
Gilbert River				C. E. Jackson, 18 Phe'x B'g, Bos'n
Gilpin				C. W. Galloupe, 76 State, Boston.
Golconda	250,000	5,000,000	Sherbrooke, Canada E	W. H. Adams, 19 Broad, N. Y.
Gold Field				C. B. Cowling, 39 Kilby, Boston.
Gold Rock	5,000	500,000	Central City, Colorado	R. M. Lockwood, 113 Wall, N. Y.
Gold River				W. H. Chessman, 9 Central, Bos'n.
Gold Hill	50,000	500,000	Colorado	W. T. Eustis, Boston.
Gold Mountain	600,000	6,000,000	Clear Creek Co., Colorado	25 Nassau, New York.
Gold Min'g of Col	50,000	5,000,000	Colorado	E. Latham, 23 William, N. Y.
Golden Gate	60,000	600,000	Sum. Highl'd & Mill C. D., Mon	J. Morse, Jr., 117 B'way, N. Y.
Gunnel Central			Colorado	70 Broadway, N. Y.
Gunnel Gold	300,000	3,000,000	Colorado	F. E. Roelfson, 78 & 80 B'way, N. Y.
Gregory	20,000	1,000,000	Colorado	Thos. Wildes, 17 William, N. Y.
Granada	50,000	125,000	Colorado	J. Stanton, Jr., 25 Nassau, N. Y.
Great Western	60,000	600,000	Russel Dist., Col.	E. Kemeys, 70 Broadway, N. Y.
Gunnel Gold	100,000	1,000,000	Colorado	F. E. Roelofson, 78 B'way, N. Y.
Halifax				A. Case, 7 Phœnix B'l'g, Boston.
Harmony				Demas Barnes, 21 Park Row.
Her'it'ge Ranch	30,000	300,000	El Dorado, Cal.	
Hope	80,000	2,000,000	G'ld Dirt Lode, Gilp. co., Col.	J. P. Davies, 81 John, N. Y.
Holman	150,000	300,000	Clear Creek co., Col.	J. O'Neill, 23 Wm, N. Y.
Humboldt	100,000	500,000	Colorado	78 B'way.
Idaho Gold	100,000		Montana	5 Pine, N. Y.
Isaac's Harbor	100,000	500,000	Isaac's Harbor, Nova Scotia	W. F. Shirley, 137 B'way, N. Y.
Isle Royale				44 Ex. Pl.
Kansas Colorado	100,000	1,000,000	Colorado	J. G. Greenlies, 111 B'way, N. Y.
Kent				G. H Wyman, 19 Phe'x B'l'g, Bos.
Kip & Buell	100,000	200,000	Colorado	J. C. Harriott, 70 Wall, N. Y.
Knickerbocker	100,000	1,000,000	Colorado	F. Avery, 78 B'way, N. Y.
La Crosse	100,000	$1,000,000	Nevada Dist., Colorado	H. Fales, 71 B'way, N. Y.
Liebig	200,000	1,000,000	Colorado	
Lake Major	12,000	$600,000	Nova Scotia	Fred. Franck, 113 Water, N. Y.
Mariposa Gold	100,000	10,000,000	Bear Valley, Cal.	G. W. Farice, 34 Wall, N. Y.
Mammoth	50,000	500,000	Colorado	J. Jarrett, 41 Liberty, N. Y.
Manhattan	100,000	1,000,000	Colorado	W. R. Lothrop, 172 B'way, N. Y
Massachuscuts	250,000	1,200,000	Gilpin co., Col.	W. D. Briggs, 11 Phe'x B'l'g, Bos.
Merchants	30,000	600,000	Alturas co., Idaho	Jas. K. Selleck, 157 B'way, N. Y.
Metropolitan				
Mountain Pride	100,000	1,000,000	B'r C'k, St. Esc., Idaho	29 Pine, N. Y.
Montague	50,000	500,000	near Halifax, Nova Scotia	C. B. Cowling, 39 Kilby, Boston.
Mount Alpine			Griffith Dist., Clear C'k., Col.	J. B. Randol, N. Y.
Mount Vernon	500,000	5,000,000	Mt. V. & Mam'th Dists., Nev.	25 Park Row, N. Y.
Mount Vista	50,000	500,000		J. Chapman, 23 Nassau, N. Y.
Montana	100,000	400,000	Nevada, Ills., Greg'y, Col.	A. L. Guerber, 54 Wm., N. Y.
Monte Christo	100,000	2,000,000	White Pine District, Nev.	Thos. Dunlap, 413 Chestnut, Phil.
Montezuma	100,000	500,000	Colorado	F. B. Webster, Boston.
Montrose	100,000	1,000,000	Clear Creek co., Col.	C. A. W. Sibley, 80 B'way, N. Y.
Morning Star	5,000	5,000,000	Owyhee co., Idaho	E. M. Barnum, 137 B'way, N. Y.
Mexican Pacific	100,000	10,000,000	Mexico	J. Mackie, 88 Wall, N. Y.
Melones & Stan			Calaveras co	606 Mont, San Francisco.
National	300,000	3,000,000	on So. Boulder C'k, Col.	31 School, Boston.
Nevada Star				25 Pine, N. Y.
New England	50,000	150,000	Black Hawk, Col.	J. Weatherbee, Jr., Boston.
New Mexico			near Santa Fe	
New Gregory				W. A. Kent, 144 State, Boston
New York City	50,000	5,000,000	G'ld Canon D't, Land. co. Nev.	10 Pine, N. Y.
New York Dist.	50,000	500,000	Austin, N. Y. Dist., Nevada	71 B'way, N. Y.
New York of Col	100,000	1,000,000	Colorado	F. E. Roelfson, 74 B'way, N. Y
N. Y. & Nevada	100,000	1,000,000	Nevada	J. J. Osborn, 30 Pine, N. Y.
N. Y. G. Min'g	100,000	1,000,000	Colorado	F. E. Roelofson, 78 & 80 B'way.
N. Y. & Eldor'do			Nevada	106 B'way, N. Y.
N. Y. & Idaho			Idaho	180 Chatham, N. Y.
N. Y. & Santa Fe			Nevada	New York.
N.Y. & Owyhee		1,000,000	Owyhee co., Idaho	6 Pine, N. Y.
N. Y. & Oro Fino	10,000	1,000,000	Owyhee co., Idaho	137 Broadway, N. Y.
N. Y. & Reese R			Nevada	New York.
N. Y. & Renfew				2 Murray, N. Y.
N. Y. & Washoe			Nevada	New York.
North Clear C'k	100,000	1,000,000	Gilpin co., Col.	J. Francis, 80 B'way, N. Y.
Nova Scotia				Chas. Barrett, 13 Doane, Boston
N. Y. & Nova Sc	100,000	1,000,000	Tangier, Nova Scotia	Jos. E. Gay, 3 Hanover, N. Y.
National S Min'g		1,500,000	Owyhee co., Idaho	115 B'way, N. Y.
Occidental	5,000	500,000	Nevada & Ills. C. Dist., Col.	100 B'way, N. Y.
Oldham				Chas. Barrett, 13 Doane, Boston.
Ophir	62,500	625,000	on Comstock Lode, Nevada	Moses A. Hopbock, 45 William.
Pacific	40,000	4,000,000		24 Pine, N. Y.
People's	100,000	5,000,000	Alpine & Sierra cos.	23 Nassau.
Peck				E. R. Sawyer, 144 State, Boston.
Perigo	60,000	3,000,000	Ind. Dist., Gilpin co., Col.	J. W. Stratton, 99 B'way, N. Y.
Pine Mountain	30,000	3,000,000	Pine Mountain Dist., Nev.	F. K. McCully, 157 B'way, N. Y.
Pioneer & Inskip			Buena Vista Dist., Nevada	15 Nassau, N. Y.
Phila. & Color'do	20,000	1,000,000	Central City, Col.	E. W. Clark & Co., Phila.
Phelps & Gilm'r	200,000	1,000,000	Colorado	W. H Steudevant, 25 Nassau.
Pleasant Valley	125,000	1,250,000	Colorado	J. S. Lyon, 69 Wall, N. Y.
Pontiac	50,000	1,000,000	Ill. Cen. M. Dist., Col.	R. H. Rickard, 19 Nassau.
Prescott	100,000	1,000,000	Central Arizona	69 B'way, N. Y.
Prince Albert				W. H. Chessman, 9 Central, B'stn.
Quaker City			Ind't D't, G'd D't City, Col.	103 South Third, Phila.
Quartz Hill	40,000	100,000	Nevada Dist., Col.	J. A. Tyler, 29 Wall, N. Y.
Rancho C'k	10,200	1,200,000	Pine Wood Dist., Nevada	18 Broad, N. Y.
Realito		1,600,000	G'ld Hill D., Storey co., Nev.	117 B'way, N. Y.
Red River Fr'l	100,000	1,000,000	Amador Dist., Lander Co., Nev	Elijah Alliger, 67 Wall, N. Y.
Renfrew				W. Stockbridge, 74 F'klin, Bos'n.
Republic	15,000	1,500,000	Amador D., Lander co., Nev.	67 Exchange Pl., N. Y.
Rocky Mountain	50,000	500,000	Grey & Empire Dists., Col.	E. L. Bolles, 70 B'way, N. Y.
Reciprocity	100,000	1,000,000	Canada East	B. B. Grant, Jr., 71 B'way, N. Y
Scorpion			Virginia City, Nevada	617 Clay, San Francisco.
Sherbrooke	100,000	1,000,000	Sherbrooke, Canada East	F. Schumacker, Clif. N. Y.
Silas Wright	60,000	600,000	Amador D., Lander co., Nev.	18 Wall, N. Y.
Silver State	100,000	500,000	Humb't Starr. Pr. R. D. Humb't co., Nevada	R. S. Miller, 49 William, N. Y.
Silver Wave	300,000	3,000,000	Resee riv., Lander co., Nev.	Emmet Blair, 243 B'way, N. Y.
Smith & P'rmlee	125,000	2,500,000	Colorado	G. A. Lathrop, 4 Broad, N. Y.
Smithfield	100,000	400,000	Gilpin Co., Col.	A. F. Raum, 48 Broad st., N. Y.
Spanish		3,000,000	La Plata, Churchill co., Nev.	228 South Third, Phila.
So. Clear C'k			Colorado	Canastota, N. Y.
Starlight Ledge	50,000	500,000	P'ville, El Dorado co.	
Star of Color	200,000	2,000,000	Colorado	J. N. Powers, 22 Pine, N. Y.
Standard	50,000	500,000	Gregory Dist., Col.	T. A. Matchell, 70 B'way, N. Y
Steptoe	20,000	2,000,000	G'd Can., Lander co., Nev.	10 Pine, N. Y.
Sterling City		1,200,000	Colorado	New York.
Stewart	100,000	500,000	Colorado	C. Durham, 31 Exchange, Boston
Suffolk				Carlos Cobb, 22 William, N. Y.
Southard				Wm. Wallace, 11 Doane, Boston.
Stafford				C. E. Jackson, 15 Central, Boston
Tascher	100,000	1,000,000	Colorado	F. J. Wright, 8 Wall, N. Y.
Texas	50,000	500,000	Black Hawk City, Colorado	Wm. E. Parish, 155 B'way, N. Y.
Trianto			San Antonio, L. Cal.	San Francisco.
Union	240,000	12,000,000	Colorado	F. A. Potts, 110 B'way.
United States	75,000	1,500,000	Colorado	J. P. Stevens, N. Y.
University				31 Nassau, N. Y.
Victoria				W. H. Chessman, Central, B'stn.
Virginia City	250,000	250,000	Nevada	J. B. William, 78 & 80 B'way.
Wauba Yuma	600,000	6,000,000	Arizona	35 William, N. Y.
Waddingham	24,000	600,000	Alturas co., Idaho	Jas. K. Selleck, 157 B'way, N. Y
Waverley				J. Leighton, 97 State, Boston
Windsor Gold M	10,000	100,000	Colorado	25 William, N. Y
Wilson & Cass			Colorado	New York.

LEAD.

COMPANY.	SHARES.	STOCK.	SITUATION OF MINE.	SECRETARY & PLACE OF BUSINESS.
Amenia	100,000	$ 500,000	Duchess co., N. Y.	G. Furman, 77 Cedar, N. Y.
Bucks County	40,000	200,000	Bucks co., Pa.	R. R. Sinclair, 53 Ex. Pl., N. Y.
Canada	50,000	250,000	Canada	Alb. Case, 7 Phe'x B'l'g, Boston.
Clute	110,000	550,000	Macomb T. St. Law. co., N. Y.	Bev'l'y S. Merrill, 42 Cedar, N.Y.
Continental	200,000	500,000	Martinsburg, N. Y.	J. Sickles, 57 Ex. Pl., N. Y.
Eastport	100,000	1,000,000	Eastport, Me.	R. Vose, 54 William, N. Y.
Erie	40,000	4,000,000	Orange co., N. Y.	Ogden Gaul, 25 Pine, N. Y.
Hampton	100,000	500,000	Hampshire co., Mass.	C. W. Bryant, Boston.
Jefferson				65 Wall, N. Y.
King's Hill	10,000	50,000		W. L. Haskin, 180 B'way, N. Y.
Lake Superior	200,000	1,000,000	Secs. 5 & 36 T., 49 & 50 R., 28 & 29 Marquette co, Mich.	C. L. Mather, N. Y.
Lancaster	50,000	250,000	Lancaster co., Pa.	J. R. Sibley, 35 Pine, N. Y.
Macomb	110,000	550,000	Macomb T. St. Law. co., N. Y.	C. E. Scofield, 42 Cedar, N. Y.
Maine	50,000	500,000	Eastport, Me.	A. L. Butler, 54 William, N. Y.
Mineral Point	100,000	500,000	St. Lawrence co., N. Y.	H. W. Warren, 60 City Ex., B'stn.
Morgan	100,000	500,000		W. Williams, 42 Cedar, N. Y.
Manhan				40 B'way, N. Y.
Mount Hope	80,000	200,000	Mt. Hope, Orange co., N. Y.	W. Williams, 24 Pine, N. Y.
New Hampshire	100,000	500,000	New Hampshire	W. A. Farrar, 71 B'way, N. Y.
N. Y. & Boston		1,000,000	Chester co., Pa.	S. M. Cockein, 22 William, N. Y.
Oswegatchie				24 Pine, N. Y.
Owens Lake	50,000	250,000		C. W. Bond, 78 Cedar, N. Y.
Phœnix	50,000	250,000	Columbia Co., N. Y.	G. W. Butler, 54 William, N. Y.
Placentia Bay	200,000	1,000,000	Newfoundland	J. Simpkins, 29 Wall, N. Y.
Ramsay	20,000	500,000	Township Ramsay, C. W.	C. W. Bryant, Boston.
Rochester	200,000	500,000		J. A. Ferguson, 8 Wall, N. Y.
Rossie				24 Pine, N. Y.
Rosa Clara	100,000	1,000,000		H. Lathrop, 25 Nassau, N. Y.
St. Clair	100,000	1,000,000		H. B. Hawkins, 25 Nassau, N. Y.
St. Joseph	100,000	1,000,000		W. Williams, 6 Broad, N. Y.
Shawangunk	100,000	500,000	Mt. Hope, Orange co., N. Y.	E. P. Ackerman, 48 Pine, N. Y.
Sussex	125,000	625,000	Sparta Town. Sus's co., N. J.	F. H. Stow, 53 Cedar, N. Y.
Walkill			Orange co., N. Y.	W. A. Scott, 11 Wall, N. Y.
Warren			Warren, Gratton co., N. H.	J. S. Christie, 100 B'way, N Y
White Mountain			New Hampshire	111 B'way, N. Y.

SILVER.

COMPANY.	SHARES.	STOCKS.	LOCATION OF PROPERTY.	SEC'Y AND PLACE OF BUSINESS.
Amazon	25,000	$250,000	Nevada	W. L. Louther, 134 So. 3d, Phil.
Argentine	50,000	250,000	Argentine Dist., Colorado	D. L. Demmon, 134 State, Boston
Arizona	100,000	10,000,000	22 m W of Tubac, Arizona	J. B. Randol, 25 Nassau, N. Y
Astor	200,000	1,000,000	On Comstock Lode, Nev	J. Chapman, 71 Broadway, N. Y.
Atlantic & Pac.	50,000	1,000,000	Humboldt T, Hum't Co, Nev.	J. N. Sewall, 8 Broad st., N. Y.
Big Smoky	20,000	600,000	Smk'y Hill, Lander Co. Nev.	71 B'way.
Black Eagle	7,000	350,000	Carson, Owyhee co., Idaho	O. D. Gardner, 40 Maiden lane.
Bullion	200,000	1,000,000	Bannock, Montana	55 Liberty street.
Bush	50,000	500,000	Austin City, Nevada	176 Chambers st., N. Y.
Combination	5,000,000	50,000	Nevada	J. W. Stoute, Jr., 155 B'way, N.Y
Colorado Con.			Cedar Hill Nevada	New York.
Columbia	20,000	3,000,000	Austin City, Nevada	J. E. Smith, 10 Pine street, N. Y.
Conn. & Nevada	120,000	1,250,000	Averill, Churchill Co. Nev.	49 Liberty street, N. Y.
Commonwealth	200,000	2,000,000	Gold Hill, Nevada	78 B'way, N. Y.
Cosmos	10,000		Owyhee Co, Idaho	137 Broadway, N. Y.
Del Norte & S'br			Lower California	New York.
Durango	5,000	500,000		W. R. Garrison, 73 W'm st., N Y.
East Bannack	100,000	200,000	Bannock City, Montana	J. Callender, 49 Ex. P., N. Y.
Empire G. & S.	100,000	10,000,000	Bodie Bluff, Mono	H. R. Gates, 191 Broad'y, N. Y.
Empire and Silver State	20,000	2,000,000	Reese River Dist., Nevada	57 B'way, New York.
Eldorado	500,000	2,500,000	San A 90 m s of Austin, Nev	208 South Fourth street, Phila.
Essex & Diadem	125,000	2,500,000	Sierra dis, Humboldt C. Nev	A. R. Wetmore, 81 Vesey st, N.Y.
Franklin			Nevada	Philadelphia.
Gem	200,000	1,200,000		H. K. Gates, 191 B'way, N. Y.
Globe	100,000	500,000	Austin, Nevada	J. W. Brazier, 26 Pine, N. Y.
Good Hope	20,000	1,000,000	40 m S of Austin, Nevada	80 Broadway, N. Y.
Huron			Montana	New York.
Incas	300,000	300,000	Summit co., Colorado	J. P. Whitney, 19 Lindall, Bost.
Knickerb'r and Nevada	20,000	2,000,000	Union Dis, Nye Co, Nev	H. R. Shotwell, 70 Cedar, N. Y.
Lander Hill			Nevada	74 B'way, New York.
Lincoln		1,000,000	Owyhee Co, Idaho	80 Broadway, N. Y.
Lw'r California	40,000	2,000,000	North Part of Lower Cal.	55 William street, N. Y.
Madison	30,000	3,000,000	Nevada	W. W. Perkins, 71 B'way, N. Y.
Macedon			Nevada	Philadelphia.
Manhattan			Nevada	57 B'way, New York.
Merchants	30,000	600,000	Alturas Co. Idaho	157 Broadway, N. Y.
Metropolitan	15,000	1,500,000	Austin City, Nevada	158 Broadway, N. Y.
Morning Star	5,000	5,000,000	Owyhee County, Idaho	137 Broadway, N. Y.
Mount Vernon	500,000	5,000,000	Mount Vernon & Mammoth District, Nevada	New York.
Mount Vista	50,000	500,000		J. Chapman, 71 Bway, New York.
National	15,000	1,500,000	Owyhee Co, Idaho	115 Broadway, N. Y.
Nevada	100,000	300,000	Mountain Wells, D. Ch. co. Nev	328 Walnut street, Phila.
Nevada	120,000	1,200,000	Nevada	E. L. Bolles, 74 B'way, N. Y.
New Y'k & Jone	20,000	2,000,000	Ione City, Nye Co., Nev	71 Broadway, N. Y.
New York	1,500	1,500,000	Austin, Nevada	S. R. Hutchinson, 80 B'way, N.Y.
New York City	50,000	5,000,000	Gold Can Dist. Lander Co. N.	10 Pine street, New York.
New Y'k Dis't	50,000	5,000,000	80 m f'm Austin, N. Y. Dis. Nevada	S. A. Hopkins, 71 Broadway, N Y
New Y'k & Nev.	10,000	1,000,000	Nevada	J. J. Osborn, 30 Pine street, N. Y
N. Y. & Owyhee		1,000,000	Owyhee Co. Idaho	6 Pine street, New York.
N.Y. & Oro Fino	10,000	1,000,000	do. do.	137 Broadway, New York.
N. Y. and Silver Peak	20,000	2,000,000	Nye County, Nevada	R. C. Root, 74 Broadway, N. Y.
N.Y. & Santa Fe			Nevada	New York.
N. Y. & Washoe			Nevada	New York.
North Am. M'g.			Nevada	Philadelphia.
Ocean Transit		1,500,000	Lower California, Mexico	24 Pine, N. Y.
Ophir			On Comstock Lode, Nev	
Pah Ranagat C'l	50,000	5,000,000	Nevada	26 Pine, N. Y.
People's	100,000	500,000	Alpine & Sierra Counties	8 Pine street, New York.
Phœnix	200,000	2,000,000		48 East 26th street, New York.
Picacho	50,000	2,000,000	Arizona	T. H. Perkins, New York.
Pine Mount'n	30,000	3,000,000	Pine Mount'n Dist. Nev	F. K. McCulley, 100 Bd'way, N. Y.
Pioneer & Buskip			Buena Vista Dis., Austin, Nev	15 Nassau street, New York.
Prescott	50,000	2,500,000	Arizona	T. H. Perkins, New York.
Presidential	125,000	2,500,000	Austin, Nevada	Wm. Lemmon, 17 Broad, N. Y.
Republic	15,000	1,500,000	Amador, D Lander Co. Nev.	67 Ex. Place, New York.
Revenue Exten.	50,000	500,000	Lander County, Nevada	W. L. Kite, 142 South 4th, Phila.
Rosario and Carmen	5,244	1,480,000	Sinaloa, Mexico	San Francisco.
San Antonio	60,000	3,000,000	Arizona	C. Lamson, 51 Nassau st., N. Y.
Seminole	7,000	1,500,000	Union'y., Humboldt Co., Nev.	L. G. Wilkin, 119 B'way, N. Y.
Silas Wright	60,000	600,000	Amador, D Lander Co. Nev.	18 Wall street, New York.
Silver Hill	40,000	1,000,000	Nevada	J. C. Hitchcock, 62 B'dway, N.Y.
Silver Series		1,000,000	Lander Co., Nevada	W. B. Rogers, 117 B'way, N. Y.
South Boise, T Co	200,000	2,000,000	Alturas Co., Idaho	
Star Hill	20,000	1,000,000	Nevada	155 B'way.
St'h Cl' Crk			Colorado	Canastota, New York.
Stephenson	500,000	1,000,000	18 m E of Ft. Filmore	A. S. Kellogg, 22 Pine, New York.
Steptoe	20,000	2,000,000	Gold Can. Lander Co. Nev.	10 Pine, New York.
Sterling City		1,200,000		New York.
Tarshish	12,000	1,200,000	Toryabee Range, Un. D., Nev	H. S. M'Collum, 78 B'way, N. Y
Tempest	200,000	1,000,000		L. Bangs, 17 Nassau, N. Y.
Trumbo			San Antonio, Lo'wr Cal.	San Francisco.
Toiyabee	50,000	5,000,000	Pine W'd, Mn'tn Dis. Nev.	J. M. Brown, 157 B'wy, N. Y.
Union & El Do.	100,000	1,000,000	Mogul Silver Mn'tn.	40 Park Row.
Upper Missouri		100,000	Montana	107 Broadway.
Vedder	21,000	2,100,000	Amador Dist., Nevada	L. G. Bingham, 80 B'way, N. Y.
Wamba Yuma	600,000	6,000,000	Arizona	35 William street, New York.
Washington	22,500	2,250,000	Austin, Nevada	S. R. Hutchinson, 80 B'way, N.Y.
White Mountain			New Hampshire	111 Broadway, New York.

COPPER.

COMPANY.	SHARES.	CAPITAL.	SITUATION OF PROPERTY.	SEC'Y., AND PLACE OF BUSINESS.
Adventure,	20,000		Parts of Sections 35, 36, T. 51, N Range 38 W,	W. H. Smith, 51 Ex. Pl, N. Y.
Etna,	20,000		1226 A in Secs. 6, 7, 18, T. 58, N R 28, W Keweenaw co. Mich.	B. A. Hoopes, 324 Walnut St., Phil.
Alb'ny & Bost'n,	20,000		Secs 7, 8, 9, 10, 11, T. 55, R. 33	Fred. Beck, 43 City Ex., Boston.
Anita,	20,000		Del Norte co., California,	8 Wall St., N. Y.
Algomah,	20,000		W½ S. 30, T. 51, R. 37,	L. W. Clark, Boston.
Allouez,	20,000		Town 57, R. 32, Sec. 31,	Horatio Bigelow, Boston.
Amy gd'yd'l.,	20,000		E½ Secs. 16, 21, T. 58, R. 20, NW¼ Sec. 5, T. 57, R. 31, 160 A,	F. H. Womrath, 324 Walnut St., Philadelphia.
Arcadian,	20,000		NW¼ Sec. 20, T. 57, R. 33, 160 A,	C. P. Dixon, 48 Pine St. N. Y.
Astor,	20,000		NW¼ Sec. 5, T. 57, R. 31 160 A,	A. W. Boardman, 35 Court St., Boston.
Atlas,	20,000		NE¼ of E½ & NW¼ of NW¼ Sec. 31, T. 57, R. 31,	L. W. Clark, Boston.
Aztec,	20,000		W½ Sec. 31, T. 51, N. of R. 37,	L. W. Clark, Boston.
Bay State,	20,000		SW¼ Sec. 29, T. 58, R. 31,	L. W. Clark, Boston.
Beaver,	20,000		NE¼ Sec. 32, T. 58, R. 31,	A. W. Boardman, Boston.
Bohemian,	20,000		E½ Sec. 31, NW¼ Sec. 32, T. 51, R. 37, W,	R. H. Rickard, 21 Nassau St., N.Y.
Boston,	20,000			H. W. Warren, 60 City Ex., B'st'n.
Canada,	100,000		Brome co., Canada East,	H. P. Mount, 3 Hanover St., N. Y.
Carp Lake, M.,	20,000		T. 51, N. R. 43, W. S½ of N½ of N. Sec. 14, and E¼ S'ec. 23, and NE¼ Sec. 23, 440 A,	W. H. Abel, 70 Wall St., N. Y.
Cascade, M.	20,000		SW¼ Sec. 9, T. 49, N. R. 39, W, in Ontonagon co., Mich.,	G. F. Riley, 35 Wall St., N. Y.
Copper Creek,	1,000	$100,000	Missouri,	H. M. Thompson, Missouri, Mo.
Copper Falls,	20,000		Sec. 14, T. 58, N. R. 31, W, Keewenah Point,	97 State, Boston.
Copper Harbor,	20,000		S½ Sec. 10, T. 58, R. 28, 320 A, Keewenah co.,	Fred. Beck, 43 City Ex., Boston.
Copper Creek,	20,000	500,000	Douglas co., Wisconsin,	T. B. Lawson, 71 Broadway, N. Y.
Central,	20,000	500,000	E½ Sec. 23, T. 58, N. R. 31, W,	J. Stanton, Jr., 25 Nassau, N. Y.
Cornwall,			Strafford, Orange co., Vt.,	D. H. Whitney, 17 State St., B'n.
Continental,	200,000	500,000	Martinsburg, New York,	J. Sickles, 50 Ex. Pl., N. Y.
Corinth,	20,000	500,000	Corinth, Orange co., Vermont,	W. A. Cleveland, 191 B'way, N.Y.
Copper Hill,			Wisconsin,	Boston.
Dacotah,	20,000		Sec. 35, T. 55, R. 34, Portage Lake,	J. M. Cooper, Milk St., Boston.
Delaware,	20,000	500,000		S. M. May, 326 Walnut St., B'st'n.
Derby,			Ontonagon co., Mich.,	P. C. Blancan, 35 Wall St., N. Y.
Dorchester,	20,000		800 A.,	31 and 32 City Ex., Boston.
Douglas,	20,000		E½ Sec. 30, T. 55, R. 3,	S. J. Edwards, William St., N. Y
Dudley,				H. Bigelow 43 City Ex., Boston.
Eagle River,	20,000		T. 58, R. 31, Secs. 28, 29, 33, 34,	A. Lanson, 70 State St., Boston.
Ely,	100,000	500,000	325 A., Richmond, Canada East,	Ernest Sacchi, 82 B'way, N. Y.
Empire,	20,000		1798 A., Secs. 1, 2, 11, 12, T. 58, N. K. 28, W. K'w'n co., Min.	J. S. McMullin, 423 Walnut, Phil.
Eureka,	20,000		W½ Sec. 2, T. 49, N. R. 41, W. Ontonagon co.,	H. Shirley, 137 B'way, N. Y.
Evergreen Bluff,	20,000		NE¼ Sec. 6, T. 50, R. 38,	F. W. Capen, 44 Ex. Pl., N. Y.
Flint Steel R.,	20,000		Sec. 11, 12, T. 50, N. R. 39, W,	F. K. McCully, 157 B'way, N.Y.
Forest City,	20,000		320 A. NE¼ Sec. 36, and SE¼ Sec. 25, T. 51, R. 43,	J. F. Paul, 19 Phœnix Building, Boston.
Franklin,	20,000		SW¼ Sec. 24, T. 55, N. R. 31 W.,	C. Emery, 26 Kilby St., Boston.
Franconia,	60,000	300,000	New Hampshire,	J Hanna, 162 Fulton St., N. Y.
French Creek,	100,000		Chester co., Pennsylvania,	R. Roberts, 19 Nassau St., N. Y.
Garden City,	20,000		SW¼ Sec. 60, N. W. Sec. 59, T. 58, N. R. 31 W,	R. H. Howe, Chicago.
Girard,	20,000		600 A. Sec. 15, T. 58, N. R. 28, W. Keweenaw co., Mich.,	B. A. Hoopes, 324 Walnut, Phil.
Gr'd Portage,	20,000		SW¼ Sec. 36, R. 34, W,	A. S. Kellogg, 22 Pine st., N. Y.
Great Western,	20,000		SE¼ Sec. 30, & SW¼ Sec. 29, T. 21, K. 320 A., Ontonagon	J. M. Cooper, 24 City Ex., B'st'n.
Hamilton,	20,000		SE¼ Sec. 35, S½ Sec. 36, T. 50, R. 41, SW¼ Sec. 21, R. 20, 14¼ A.,	J. B. Townsend, 44 Exchange, N. Y.
Hancock,	20,000		SW¼ Sec. 26, Tract of Sec. 25, T. 5, R. 34, W.,	Fred. Beck, 43 City Ex., Boston. do. do. do. do.
Hanover,	20,000			
Hartford,	20,000	500,000	320 A. E½ & SE¼ Sec. 32, SW¼ & W½ Sec. 33, T. 50, R. 40, W,	T. M. Tyng, 61 Cedar St., Boston.
Henwood,			Michigan,	
Hope,	20,000	50,000	240 acres in T 57, R 32, Kw co	19 Nassau St., New York.
Humboldt,	20,000		Sec. 21, T. 58, R. 31, W,	Hor. Bigelow, 43 City Ex., B'st'n.
Hudson,	20,000		Ontonagon co.,	P. C. Blancan, 35 Wall St., N. Y.
Huron,	20,000		Sec. 2, T. 54, R. 34, W,	Hor. Bigelow, 43 City Ex., B'st'n
Isle Royale,	20,000		NW¼ Sec. 1, T. 54, R. 34, W,	F. W. Chapen, 33 Ex. Pl. Boston.
Keweenaw,	20,000	500,000	Michigan,	F. W. Chapen, 44 Ex. Pl., Boston.
Knowlton,	20,000		SE¼ Sec. 1, W¾ of SW¼ Sec. 1, and other lands,	44 Ex. Pl., N. Y.
Lafayette,	20,000		Secs. 25, 30, 36, T. T. 51, N. R. 43, and 44, W, Ontonagon,	P. C. Blancan, 35 Wall St., N. Y.
Lyster,	200,000	$400,000	Township Nelson, Canada East,	H. W. Nelson, 24 City Ex., B'st'n
Lower California	40,000	2,000,000	N. part of Lower California,	55 William St., N. Y.
Madison,	20,000		Part sec. 18, 19 entire, 30, 31,	Fred. Beck, 43 City Ex., B'st'n.
Merryweather,	20,000		Secs. 9, 19, T. 48, N. R. 4, W.,	J. T. Waters, New York.
Mandan,	20,000		680 A. Secs. 8, 17, 19, 30, T. 58, N. R. 29, W., Keweenaw co., Min.,	B. A. Hoopes, 324 Walnut, Phil.
Manhattan,	20,000		W½ Sec. 11, NW¼ Sec. 14, T. 58, N. R. 32, W, 360 A.	J. W. Davies, 21 Nassau St., N.Y.
Mendotta,	100,000	500,000		M. Taylor, 30 Wall St., N. Y.
Mass. M. Co.,	20,000		SW¼ Sec. 7, T. 50, N.R. 28, W,	J. M. Cooper, Pittsburgh.
Mesnard,	20,000		NE¼ Sec. 24, T. 55, R. 34,	L. Barr, 12 Phœnix B'gs. Boston.
Melones & Stan.,			Calaveras co.,	606 Mont St., San Francisco
Minnesota,	20,000		Sec. 15, T. 50, N. R. 39, W,	S. M. Pond, 12 Pine St., N. Y.
Maryland,			Maryland,	Baltimore.
Merrimac,	20,000		NW¼ Sec. 34, T. 51, R. 38, W, Ontonagon,	J. M. Mills, 284 Pearl St., N. Y.
National,	20,000		Sec. 16, T. 50, R. 39, W. 1,988 A	J. M. Cooper, Pittsburgh.
Native,	20,000		Keweenaw Point, Michigan,	
Nashua,	50,000	100,000	320 A. N. Ontonagon,	W. F. Hardy, 27 City Ex., B'st'n.
Nebraska,	20,000		NE¼ Sec. 12, T. 50, and other lands,	S. W. J. Webb, 54 Wall St., N. Y.
Nequakett,	20,000		Sec. 26, T. 51, R. 43,	G. S. Frost, Detroit.
New York,	20,000		240 A. SE¼ Sec. 10, E½ NE¼ Sec. 15,	H. W. Nelson, 24 City Ex., B'st'n.
New Burra,			Baltimore,	R. Roberts, 19 Nassau St., N. Y.
New Jersey Con.	100,000	1,000,000	New Jersey,	W. Bowes, 68 Wall St., N. Y.
N. Y. & Passaic,	100,000		Harrison, Bergen c.,	T. H. Belt, Jr. 23 William St. N.Y
New Devon,				T. H. Belt, Jo, do. do.
North Western,	20,000		W½ Secs. 24, 25, 26, E½ Secs. 35, 35, T. 58, N.R. 31,	17 William St., N. Y.
Norwich,	20,000	500,000	Secs. 11, 12, T. 40, N.R. 39, W, and other lands, 1,300 A.	J. M. Cooper, Boston and Detroit.
Ogema,	20,000	500,000	NW¼ Sec. 6, T. 50, N.R. 35, W.	P. C. Blancan, 35 Wall St., N. Y.
Ontonagon,	20,000		651 A. Secs. 20, 21, 28, T. 50, N. R. 39, W. Rockland, Ontonagon.	G. E. Lellingwell, 7 Pine, N. Y.
Ont'n'g'n, Mass.	20,000			G. Hart, 11 Pine Street, N. Y.
Otisville,	100,000	500,000	Otisville, Orange co., N. Y.	William D. Williams, Michigan.
Penn. Manuf'g.	20,000	1,000,000	4320 A. Secs. 13, 14, 15, 24 ½ Secs. 10, 11, 12, 25, 25, T 58, N. R. 30, W.	C. Windsor, 60 Wall St., N. Y.
Pewabic,	20,000		W½ Sec. 25, T. 55, N R 34, W.	S. M. Day, 326 Walnut St., Phil.
Pitts. & Boston,	20,000		Ts. 58, 57, N. R. 31, 32, W. 12,495 A.,	C. Emery, 39 State, Boston.
Pontiac,	20,000		SE¼ Sec. 13, T. 55, N. S. 31, W.	H. A. Johnston, Pittsburgh.
Portage Lake,	20,000		Houghton co. Michigan,	C. Emery, Kilbey St., Boston.
Prescott,	100,000	1,000,000	Central Arizona,	22 William St., N. Y.
Providence,	20,000	500,000	240 A. in Keweenah co., NW¼ Sec. 10, W½ NW¼ Sec. 10, T. 57, R. 32, W.	60 Broadway, N. Y.
Phila. & Boston,	20,000		640 A. Sec. 14, T. 58, N. R. 28, W. Keweenaw co., Mich.	J. W. Davis, 21 Nassau St., N. Y.
Quincy,	20,000		Sec. 26, T. 54, N. R. 34, W,	J. S. McMullin, 423 Walnut St., Boston.
Republic,	8,000	200,000		W. H. Smith, 51 Ex. Pl., N. Y.
Reliance,	20,000		Secs. 21, 22, 27, T. 58, N. R. 28, W, 10,785 A.	H. Baldwin, 70 Wall St., N. Y.
Rochester,	200,000	500,000		H. K. Thomas, 11 Wall St., N. Y.
Ridge,	10,000		Sec. 25, T. 51, R. 38, W,	J. A. Ferguson, 8 Wall St., N. Y.
Rockland,	20,000		Sec. 11, T. 50, R. 39,	51 Exchange Place, N. Y.
Resolute,	20,000		1 120 A. Secs. 7, 18, 19, T 58, N. R. 29, W. Keweenaw co., Mich,	S. J. W. Barry, 71 B'way, N.Y.
St. Mary,	20,000			F. Beck, 45 City Ex., Boston.
St. Margaret,	200,000	1,000,000	Canada,	E. B. Sutton, 45 Pine, N.Y.
Sharon,	20,000		Ontonagon co., Mich.,	P. C. Blancan, 35 Wall St., N. Y.
Sheldon & Col.,	20,000		SE¼ Sec. 36, T. 55, R. 34, W,	S. J. Edwards, 22 W'm. St., N. Y
South Side,			SE¼ Sec. 34, T. 55, R. 34, W,	H. W. Nelson, Boston.
Societe Fran'se,	10,000		T. 58, 59, N. R. 28, 30 W.	Copper Harbor.
Suffolk,	20,000			Carlos Cobb, 22 William St., N. Y
Superior,	20,000		W½ Sec. 14, T. 50, N.R. 39, W.	S. J. W. Barry, 12 Pine St., N. Y
Toltec Consol.,	20,000		Secs. 25, 26, R. 50, R. 36,	H. W. Nelson, Boston.
Union,	20,000	500,000		A. S. Kellogg, 22 Pine St., N. Y
Ural,			Wisconsin,	17 William St., N. Y.
Vulcan,	20,000		1 120 A. Secs. 7, 17, 18, T. 58, N R. 27, W. Keweenaw co.,	F. K. Womrath, 324 Walnut, Phil
Victoria,	20,000		Secs. 29, 29, 30, 34, 34, T. 50, R. 39, and other lands,	L. W. Clarke, Boston.
W. Minnesota,	20,000		Secs. 17, 18, 19, T. 50, N. R. 39, W.	C. T. Howard, Boston.
Wickopee,	100,000	500,000	Massachusetts,	G. A. Sneden, 12 PineSt., N. Y
Vermont,	100,000	500,000	W. Fairlee, Orange co., Vt.,	191 B'way, N. Y.
Wauka Yuma,	600,000	6,000,000	Arizona,	35 William St., N. Y.

S. means section; T. township; R. range.

AMERICAN
Journal of Mining.

[ILLUSTRATED.]

GEORGE FRANCIS DAWSON,
EDITOR.

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DESERVED THANKS.

The first appearance of the JOURNAL OF MINING was greeted with generous enthusiasm and kind appreciation, by our brethren of the press on this side of the continent. Stacks of private letters from persons anxious to subscribe, containing compliments from distinguished citizens—and in one case a subscription for *three years*—also poured in. More recently our mails from the Pacific coast have come freighted with additional kind words from exchanges and in correspondence; and now the *London Mining Journal*—the ablest paper of its class in Great Britain—in its issue of May 26th contains the following:

MINING LITERATURE.—Amongst the recent additions to mining literature in the New World, the AMERICAN JOURNAL OF MINING is worthy of especial mention; it is to mining and the allied sciences, so extensively carried on in the United States, what the *Scientific American* is to the mechanical sciences generally. The paper and printing are far superior to the ordinary newspapers of the States, and both skill and judgment are displayed in the editorial department. Six numbers have already appeared, and the same amount of care is apparent in all.

Such enconiums are highly gratifying, and while cordially thanking our friends for these pleasant compliments, it is a good opportunity to declare that we shall endeavor still more to deserve their esteem, and the support of the mining public.

AMERICAN COAL AND "WHAT DEPENDS ON IT."

It is held by Professor Knapp (Chem. Tech. page 51) that the natural moisture, as well as the oxygen present in fuel—which, during combustion, produces water—frequently prevents the attainment of very high temperatures in furnaces, in cases where such is required. And in the last issue of the JOURNAL OF MINING it was shown by a table of very careful analyses of English and other coals—made by Professor Percy in England—that the Pennsylvania anthracite contained infinitely less oxygen and hydrogen than any other. It is plain, then, that this anthracite is capable of attaining the highest temperature. We imagine that this would render it far more desirable for use in certain classes of steam and smelting purposes—although the Chancellor of the British Exchequer declares to the contrary, while admitting that it may be applied to domestic purposes. Indeed, we know that anthracite is very highly thought of and largely used in this country for both purposes. Can Mr. Gladstone ignore the fact that high temperatures are often needed in furnaces? And can he deny that such temperatures cannot be attained by using bituminous coal, because—as Professor Walter R. Johnson says—large quantities of heat are rendered latent, while converting its volatilizable materials from the solid into the elastic form—which loss is not adequately compensated by the subsequent burning of the gases? Again—to show the superiority of the Pennsylvania anthracite over the much vaunted British bituminous—this same Professor Percy, in the course of a recent lecture, delivered before the Royal School of Mines, London, said:

The less oxygen we have, under ordinary conditions, the better the coal, because the oxygen is almost all so much dead loss. The oxygen that we find in coal may be regarded as existing in combination with hydrogen in the state of water, and does not cause heat; but, on the contrary, it has to be evaporated, and must cause a loss of heat.

Here, then, we have one British authority against another. Which carries the most weight?—Mr. Gladstone, lecturing on "Finance" before the House of Commons, or Dr. Percy, lecturing on "Peat and Fuel" before the Royal School of Mines? It is hardly necessary to pursue this branch of the subject farther, for it is almost universally recognized that anthracite—with its great heat and little flame—and bituminous coal—with less heat, a bright flame and volumes of such dense smoke, that during the latter part of the last century its use was prohibited because the air became infected with it—are each of great industrial and commercial value, and are, as it were, the complements of one another. But there are some other points in Mr. Gladstone's speech that we desire to touch upon briefly. He declared that "the United Kingdom, with its 30,000,000 people, is as great in commerce as France and America, with their 70,000,000 people"—which we do not credit, but leave to commercial journals the task of refuting; that the principal reason for such (alleged) supremacy is the possession of her mineral treasures; and—reducing the whole deduction to a few pregnant lines—said he:

It is then our possession of coal, near what depends on coal, that has given us this extraordinary pre-eminence in commerce and industry.

Is it not a little singular that the Chancellor seemed to be ignorant of the fact that this country, as well as his own, possesses coal "near what depends on coal." Our three greatest coal States are Pennsylvania, Ohio, and Illinois, and these abound in that which "depends on coal," viz., iron, lead, and other useful minerals; and work is being done in them, too. In one single county of Illinois, twenty-four furnaces are now smelting lead. Hundreds and hundreds of furnaces are busy in the States bordering on the great lakes. Some are also at work in most of the Southern States. It was but a few days since we read in an exchange that the counties of Morgan, Anderson, Campbell, Scott and Roane, Tennessee, are full of the finest iron ores in the United States, and that, too, in the midst of the coal measures. This latter will soon be brought into play for Southern railroads and other uses. Cheaper labor, to be sure, would greatly increase the production and manufacture of our minerals and add to the material wealth of the country; but even now the product is remarkable, and steadily increasing. In coal, this is especially the case—the shipments from Pennsylvania alone, during the current year, being 4,145,140 tuns, or an increase of 1,278,977 tuns over the product of last year at the same date. The production of all our minerals is increasing rapidly, while the supply is almost inexhaustible. Sir William Armstrong estimates that the 80,000,000,000 tons of available coal supposed to exist in the British Isles, may be exhausted in two hundred years. The Pennsylvania coal field contains four times as much as the British Isles, and the bituminous coal measures of Illinois sixteen times as much. It is safe then to assume that we shall be able to supply the world with coal for thousands of years after the British coal beds are exhausted. What will the relative positions of the two countries be *then?* With a greater abundance of coal, both anthracite and bituminous, near to, as well as far from, a larger quantity of "what depends on coal," why should the United States, even now, be a whit behind Great Britain in the race for commercial and industrial supremacy? We have mineral and metallic resources infinitely beyond comparison with the mother country, and energy and the spirit of enterprise animates the whole land. What then is the reason? The true key to the position is the *price of labor.* In one country it is low, in the other high. Indeed Mr. Gladstone himself admits this when he says:

It is not the quantity of coal, but its production at a low price, which has given us the start, and has caused the enormously rapid progress of the country.

If England is great by reason of her cheap labor the United States will not envy her greatness. We at least are not of those who desire greatness for our country by the impoverishment of her citizens. We are opposed to helping the rich to become richer and the poor poorer, for

"Rank is but the guinea's stamp;
A man's a man for a' that."

But we know this, and Mr. Gladstone also knows it—that labor—like any other thing—will always seek the highest market, and hence migration from the British Isles to America will continue until the wages of workmen are more nearly equal. And *then, which will lead in the race?*

TIMBER FOR WESTERN MINING REGIONS.

Some time ago we gave to the public a report of a lecture delivered by the Hon. Mr. Hutchinson, of Kansas, on the scarcity of timber in our country and the importance of planting prairie land, and we observe that Congress has recently caused inquiries to be made on the subject. On the other hand, an exchange states that, in Illinois, what were vast treeless prairies, are now covered with thriving young forest trees; and where, twenty-five years ago, the first settlers found no trees, they can now cut and hew good building timber a foot square—thus shewing that the prairies are competent to and will supply timber in abundance, without planting, if the wilful or accidental Fall-burning of the grass is prevented. Systematized planting would render the future wood-supply to miners, mill-men, farmers, and others, still more certain.

GERMAN SCIENCE AND AMERICAN VIM.

We referred last week to the fact that America had to look to Germany for her scientific training in mining matters. We may remark in continuation that one-third of all the students in the mining

school of Freiburg, Germany, are Americans, notwithstanding the distance from their own country, and the foreign language in which the education is conveyed. The knowledge and practical skill acquired during the course of so many centuries in Germany, when united with the go-ahead force of our own countrymen, will undoubtedly produce results highly beneficial to the mining interest of the United States.

MINE LEGISLATION.

Congress, during the past week, has been busy in mining matters. Mr. Julian, chairman of the House Committee on Public Lands, has submitted what is said to be an able and elaborate report on the sale of mineral lands, as a sort of addenda to an amended bill recently reported by him. Not having seen either the amended bill or the report, we cannot say much about it; but from a synopsis thereof we should judge that if the bill become law, the gold and silver productions of the country will be disastrously affected. Congress should let the matter lie over a year, in order to get a proper and enlightened expression of opinion from the great mining regions that will be most affected by its passage. We shall probably return to the subject in our next issue. . . . . The Committee on Mines and Mining has reported a bill to establish assay offices at Portland (Oregon) and Boise City (Idaho), and to repeal the act establishing a branch mint at the Dalles. It also provides for the removal of machinery, etc., of the branch mints in Charlotte, N. C., and Dalton, Georgia. No action has yet been taken on the bill. . . . . The same Committee reported back an amended bill granting to every company or individual who has, in accordance with the laws of the States of California, Oregon and Nevada, or of the United States, constructed, or who may hereafter construct canals, ditches, flumes, etc., for the conveyance of water for mining, mechanical or agricultural purposes, the right of way over the public lands so long as such canals shall be used for such purposes. The bill was passed. . . . . The committee also reported a bill to incorporate the "Washington Laboratory and Mining Association," which was rejected.

GLAD TIDINGS.

The "Petroleum Company of West Virginia," in its advertisement published in an English paper, states that there are 342 Petroleum Companies in America with a nominal capital of $251,355,000, and that many of them are paying dividends of from 4 *to* 20 *per cent. per month upon the capital subscribed.* This would be very delightful news to the shareholders if there were but 4 to 20 per cent. of truth in it.

AMERICAN REPERTORY IN GERMANY.

A bill has been introduced into Congress authorizing the establishment of a Repertory in Germany, to illustrate the physical, political, social and economic condition and the natural resources of the several States of the American Union. We hope it will pass, and that advantage will be taken of it by the mining interest.

Scientific Meetings.

[SPECIALLY REPORTED FOR THE JOURNAL OF MINING.]

SOCIETY FOR THE ADVANCEMENT OF SCIENCE AND THE ARTS.

Dr. Gale spoke on Monday evening, upon the products of distillation. Of these he mentioned amalic or starchy, and vinous alcohol. The amalic contains a larger proportion of carbon than the vinous alcohol, is consequently heavier, and is in appearance somewhat like sperm oil. It is not of a volatile nature, consequently not ordinarily inflammable. It is this substance which appears to contain the flavor of the particular vegetable from which the liquor is derived whether corn, wheat, grapes, sugar-cane, cocoa-nut, or what not; or it may possibly reside in a separate ether combined with it. This flavor, called the bouquet, is neither purely smell nor taste, but a combination of both. Amalic acid, when in excess, as in new spirit or wine, is injurious to the human system; when entirely separated the flavor is lost. Amalic alcohol has only been discovered within a few years. In fact, according to the Doctor, the composition of no substance was known one hundred years ago, before analysis was introduced; but though the substance itself was unknown, not so its bad effects. These were carried off either by keeping the liquor in vessels during a number of years, thereby incurring loss of interest and other expenses, or by sending it on a sea voyage. After the composition of amalic acid was discovered by analysis, oxygen was passed through the liquor containing it, for the purpose of destroying the excess of carbon. This, however, was in practice too expensive an operation. Chemical appliances were used for obtaining the same result, but these destroyed the bouquet, or imparted injurious properties, and have been abandoned. Within the past year two inventions have been patented, the one to inject oxygen from the air into the liquor, the other to cause the liquor to imbibe oxygen by trickling from an upper room to a cellar. By these means, in one hour liquor undergoes the same change as is produced by one year's keeping.

Original Papers.

WRITTEN FOR THE JOURNAL OF MINING.

SALT—Number Five.

By FRANCIS E. ENGLEHARDT, Ph. Dr., Professor of Chemistry in St. Francis Xavier's College.

Since a considerable quantity of salt is at present manufactured from the water of salt lakes, especially in Russia, Asia, and South America, and since, moreover, some of the States and Territories of our own mighty western empire contain large salt lakes, it will not be improper to speak of these before passing over to the manufacture of salt from rock salt. The existence of salt lakes may be explained in two ways. They may have been formed either by the partial drying up of sea water, which was isolated from the ocean by a volcanic action, such, for instance, as the lifting up of a portion of the bottom of the sea; or, secondly, we may trace their origin to the fact that in many instances, streams enter lakes which have no outlets. These streams pass, during their course, over rocks containing rock salt, or through plains whose soil is impregnated with salt. By their passage they naturally dissolve some of the salt they come in contact with, carry it to the lake, and since the latter has no outlet, the water of the lake can only diminish by evaporation, and the salt must remain. Of such lakes more than thirty are found in Persia, of which the most celebrated is the Ooroomiah, ninety miles long and thirty broad. The specific gravity of the water is 1.155, and the quantity of common salt in 100 parts is a little more than 18 per cent. During the summer months, especially when the water is low in the lake, the entire shore is covered with a crust of salt, more than a foot in thickness, and this salt bed extends beyond three miles from the water's edge. In South America we find many lakes that must be classed with this group. Russia is especially rich in salt lakes. They are numerous in the province of Orenburg. In Astrachan their number is 129, of which, in 1843, more than thirty were worked for the manufacture of salt. The largest is Lake Baskatchatskoe, east of the Volga, twelve miles long and five miles wide. The celebrated Elton Lake, in Saratov, is supplied by several small streams containing salt in solution, and more than 100,000 tons are annually produced from its waters. In the Podolian desert is a salt lake, near the river Borysthenes (Dneiper), whose water evaporates by the heat of the atmosphere during the summer months, to such an extent that people ride into it with horses and wagons, cutting salt in blocks, and carrying it away much in the same manner as our ice dealers cart away their stock in the winter time. The Caspian Sea, the father of lakes, is surrounded by a great number of smaller salt lakes. Asia abounds with them; of these the Dead Sea contains eight per cent. of common salt In Africa, Algiers possesses salt lakes. In the Sahara Desert, the Lake Zagrez is often covered by a crust of salt, from one to two feet in thickness. In Abyssinia, many such lakes are known, as also in Central and South Africa. The Sandwich Islands have a large salt lake near Honolulu. In South America the so-called Pampas are mostly shallow salt lakes, which dry up during the hot weather, forming, thus, a crust of salt. They extend from Port St. Julian in Patagonia, to Chaco, in the Argentine Republic. The city of Buenos Ayres was formerly supplied entirely with salt from the salt lake Urre Lauquen, which is about thirty miles long, and fifteen broad. In Mexico are a number of salt lakes, of which one is near the City of Mexico, supplying several factories. Another is found in the Island of Carmen, in the Gulf of California, the bottom of which is covered, for several feet, with a solid salt crust. In the Bay of Campechy, the Spaniards made salt during the last century from a pond near the shore, by employing the Indians to rake the salt upon the shore, during the months of May and June, and forming it into large pyramidal heaps, which they covered with dried grass and reeds, and then set on fire; they thus formed a solid black crust, over the heap, as a protection against the rains of the wet seasons. In Texas we find a number of salt lakes, of which one is at Brownsville. In California many lakes are found containing brine. Minnesota, New Mexico, and some of our territories, especially Utah, are rich in salt lakes. The most celebrated of the Utah lakes, is the great Salt Lake, or Timpanagos, which was already known to La Hontan the French Lieutenant-General of the colony of Newfoundland, in 1689. He was of opinion that it had an outlet towards the Pacific Ocean. The Great Salt Lake is about one hundred and twenty miles long by thirty broad, and 4,200 feet above the level of the sea. The water is perfectly limpid; no animals live in it. The percentage of salt therein is, according to Dr. Gale's analysis, 20.196, with two per cent. of the other salts, and its specific gravity is 1.170. On its bank is a field of salt, estimated by Captain Stansbury, to be seven miles in breadth and ten miles long, and containing one hundred million bushels of salt. In its neighborhood are also salt wells issuing from the ground, which empty their water into the lake.

[WRITTEN FOR THE JOURNAL OF MINING.]

LEAD FIELDS OF THE UPPER MISSISSIPPI—Number One.

By J. VANCLEVE PHILLIPS.

The Mequoketa Diggings are ten miles northwest of Dubuque, Iowa, and are a continuation of discoveries for three miles along the bluffs of the creek of that name. The course of this range of ore is nearly east and west, jumping from one ridge to another, making ore in the clay shallow in the valleys, and in pipe and gash veins in the rock, in the ridges. This ore is found part in the upper, and part in the lower galena limestone. What is known as Mullet's Mine, was discovered in 1860, along the side of a steep bluff. Mullet commenced to dig above a road, finding floating ore in the "grass roots," drifted in the side of the ridge, among loose masses of limestone, flint, clay, sand, and ochre, and at the depth of six feet from the surface, large ore set in. This proved to be a pipe vein in the upper flint opening of the lower galena limestone, running east and west through a large chamber at the end or termination of a ridge. The distance through was about three hundred feet. At the time the examination was made (1864), there had been a large drift carried through the hill, and the central portion of the vein cut out. The entrance was from the east, on the side of the hill, about twenty feet above the Mequoketa, the limestone above rising up about seventy-five feet, the top of the ridge being covered with a stunted growth of oak timber. The ridge was narrow and flinty, and descended abruptly on the western slope. The end or termination of this ridge was south two hundred feet from where the vein crossed. After passing through some twenty or thirty feet of debris, formed of angular masses of limestone, flint, sand,

clay, and ochre, the drift then had solid walls and roof of cherty limestone, the chamber being six feet high and six feet wide. On penetrating towards the centre of the ridge, this chamber expanded, and was ten or twelve feet high, and thirty feet wide; along the roof could be seen a small verticle fissure; the sides of the vein were yet exposed; the ore lay in the form of a horizontal vein, in cubic masses about one foot thick; as much as fifty ton of ore was in sight in this form, along the sides of the opening. The bottom of the chamber was filled with ochre, sand, clay, and tumbling rock; a windlass had been carried in, a shaft sunk thirty feet deep in the bottom of the opening; this reached the water level; some small ore only was found. The mass of the ore had been in this horizontal pipe-vein, which had been two hundred feet long, thirty feet wide in the centre, and tapered to a point each way, towards the sides of the ridge. Some 2,000,000 pounds of ore had been taken out by the labor of three miners, working two years; a small wooden railroad had been used to take out the clay, sand, ochre, and ore. The expense of mining was not over five per cent. on the value of the ore. The discoverer was a laboring man, and was raised at once from poverty and obscurity to affluence. The mine was not now working, the owner preferring to keep the ore until the war was over, and sell it for gold or silver. The question of interest to the practical miner is, what position does this pipe-vein (crossing the termination of this ridge, and which is evidently about exhausted of its wealth,) hold to the lead veins yet to be discovered in this district? There are numerous other ridges up and down this stream that have the same rock, surface signs, and topography as this; these all contain pipe-veins. It is a remarkable fact that the same system of topography and geology of distant lead districts contain the same character of veins. It was by these surface signs that the early observing lead miners went from point to point in the lead field, and with the least possible outlay of labor, tapped the veins where they came nearest the surface. The conclusion that is suggested is—considering the extent of this field, its geographical position in the basin of the Upper Mississippi, having the great coal fields of Illinois and Iowa on the south and west—that up to this time, only the surface ores have been mined, of a vast network of veins, which will eventually connect all these isolated mines in one great system, and where the ores are stored up to last for many centuries, and supply, with this useful metal, the dense population destined to occupy this part of the continent.

The iron mountains of Missouri occupy very nearly the geographical centre of the great valley of the Mississippi, or basin of the continent. Their altitude is 1,000 feet above the Mississippi River, at St. Louis. We must not suppose this altitudinal or geographical position due to chance, but more to the economic working laws that have distributed the mineral wealth of the continent. The altitude of this vast amount of ore develops two advantages to the miner and consumer; first, these mountains occupy the centre of a system of ridges or water shed, that collects in vallies, and radiates in small creeks with rocky bottoms, all the rain that falls in the country adjacent. By this arrangement the ore is stored above the water level of the district, and evidently could be worked for hundreds of feet below the surface in comparatively dry ground. Second, that the ore or pig metal, being of very heavy carriage, could pass over down grades to great distributing points. The same principles evidently apply to our lead fields, and when the structure of the country is more fully understood, it will be found that the Platte mounds and other high points in the lead fields, are water sheds that hold an economical position to the drainage of the rain-water from the field.

[WRITTEN FOR THE JOURNAL OF MINING.]

COLORADO SILVER.

By DR. R. P. STEVENS.

In the snowy range mountains of Colorado, in gneissoid rocks, which are the central mass and nuclei of the Rocky Mountains, are found strong and well-defined veins of argentiferous galena, usually without gold, but, in some instances, containing small quantities of this mineral. McClellan Mount is one of the spurs of this range, lying at the sources of Clear Creek, and forming the dividing ridge between waters flowing into the Pacific and those into the Atlantic. Silver was first discoved on this Mount by Messrs. James C. Huff, and R. W. Steele, Colorado gold explorers, in the summer of 1864. The ores were first analyzed by Frank Dibbin, assayer, in September of the same year.

Sample No. 1, gave of silver, per ton of 2,000 lbs.				$ 490 12
"	2,	"	"	730 10
"	3,	"	"	340 96
"	4,	"	"	960 00
		of gold		5 40
"	5.	of silver	"	171 54
		of gold		12 00
"	6,	of silver	"	221 27
"	7,	"	"	127 40
"	8.	"	"	135 56

Samples of ores analyzed in this city gave as follows:

No.	1.	(Rich Pay Streak)		$2,528 50
"	2.	do	do	1,119 72
"	3.	do	do	1,424 00
"	4.	do	do	414 00
"	5.	do	do	439 00
"	6.	do	do	1,560 29

The above samples of ores were taken from Argentine and West Griffith Districts. The rocks which hold these veins evidently belong to the oldest system of gneiss rocks known, for the lower Silurian and Azoic slates flank them on the east, probably on the west also, but this is not at present ascertained. The veins found at a great height above the ocean level and in this respect bear strong similarity to the rich silver veins of Mexico and South America. Though found on the dividing ridge, a zone of forests surround the foot of the mountains, which will supply charcoal for many years to come, until the Pacific Railroad from Denver is completed, when the ores of the mountain can be shipped to the coal on the western limits of the plains. With coal and iron in the foot of the hills of the Rocky Mountains, and a rich belt of auriferous rocks lying west of these important minerals, and bounded on the west by rich argentiferous galenas—having also copper and antimony—perhaps, also, tin, platina, and palladium, with available springs of petroleum—the future of Colorado is full of hope to those who have patience to endure.

MINING COMPANY STATEMENTS.

COSMOS SILVER MINING COMPANY. CAPITAL, $2,000,000; 20,000 SHARES, $100 EACH.

The prospectus states.—Seventeen thousand shares are already disposed of, leaving $3,000 shares in treasury, to sell at $50 per share, giving the company an additional cash capital in the treasury of $150,000. With this the company can increase their capacity to thirty stamps, which will be in full operation this season, and they will have power to propel an additional number of stamps, and can increase as the facilities of the company will permit. The capacity of the mill when completed will enable the company to crush at least 50 tons of ore each day. Ten stamps are in full operation from which bullion is being shipped. The property is located in Carson District, Owyhee county, Idaho Territory, and consists of the following mines, viz:

800 feet of the "Morning Star."
1300 " " "Silver Legion." (discovery."
400 " " " 1st Southern Extension.
400 " 1st Southern Extension. "Dardenelles."

Ample timber lands have been secured, and the mill is well situated on Jordan Creek.

DIVIDENDS.

THE BEMUS HEIGHTS PETROLEUM COMPANY have declared a dividend of three per cent on the capital stock for the month of May, payable on demand at the office of the company, 64 Broadway, New York.

MEETINGS.

EMPIRE AND SILVER STATE MINING AND MILL COMPANY, office 35 Pine street, New York.—Annual stockholders meeting for the election of Trustees 19th of June next.

MARKET REVIEW.

FRIDAY EVENING.

Gold to-day reached 149½; the price at 2 o'clock was 148½. There is slightly more activity in the loan market. Call loans 5@6 per cent., and on government collaterals 4 per cent. Commercial paper 6½@9 per cent. Sterling exchange is firm at 109¼@109⅞ for sixty days' bills, and 111@111⅛ for short sight.

The following will show the exports of specie from the port of New York for the week ending June 9th, 1866:

Total for the week	$ 4,220,756
Previously reported	33,256,779
Total since January 1, 1866	$37,477,535
Same time 1865	$15,514,556
" 1864	25,525,170
" 1863	19,675,676
" 1862	19,759,036
" 1861	3,005,840

The following will show the specie movement at Boston since the beginning of the year to May 31:

Total for May	$1,939,500
Total this year	$2,025,700
Same time '65	814,898
Same time '64	220,401
Same time '63	1,795,811
Same time '62	703,777
Same time '61	43,104

In mining stocks since last week Consolidated Gregory has advanced from $10.80 to $14.00; Smith & Parmelee Gold from $8.90 to $9.30; Gunnell Gold from 75 to 95; Pownieville Gold from 45 to 49; Canada Copper from 90 to $1.10.

In Petroleum Stocks, United States has advanced from $5.60 to $6.75. Bennehoff Run Oil has declined from $4.75 to $3.10. Bennehoff Run has been irregular, closing at $11.50. N. Y. & Allegheny has advanced from $4.70 to $5.00.

Iron.—No. 1 American pig is held for higher rates—$45@$45 50. There has not been a large business done, owing to the short supply, which has caused more demand for No. 1 Scotch at an advance. The sales are 500 tons Colness, at $46; 100 tons Glengarnock, at $45; 300 tons Eglinton, at $44@44 50.

Imports from January 1st, to May 31st, 1866:

	BAR. Tons.	PIG. Tons.	SHEETS. Bdls.
From Foreign Ports	11,196	26,742	216,832
Coastwise	803	1,370	15,700
Total	11,999	28,112	232,541
Same time 1865	3,603	8,383	65,669
Increase	8,396	19,729	166,872

Bar iron is dull; prices unchanged.

The total value of iron and unwrought steel exported from Great Britain during April was £1,487,787, against £964,321 in the corresponding month last year; increase £523,466—of which unwrought steel showed an advance from £51,828 to £115,221, or more than 100 per cent.

Copper—Has been unsettled; the prices are somewhat lower. Sales of 50,000 lbs. Detroit at 32c., later of 100,000 lbs. at 31c; 40,000 Portage Lake at 30¾c., and 300,000 lbs. Baltimore, for future delivery, at 30½c.@31c. Copper sheathing, 45c. Yellow Metal, 33c.

The exports of copper from Great Britain, which in March showed a decline, shows a still further decline for April, namely £233,712, against £262,590 last year. Unwrought copper rose on the other hand from £23,736 to £43,774.

Lead.—The demand is less active, but prices are unchanged.

Tin.—Pig tin is dull and heavy. Sales are reported of 200 slabs Straits at Boston, at 18½c., gold.

Spelter—Quiet, but prices are firm. Domestic 6⅞c., gold and foreign 10¾@11c., currency.

Von Badelszen & North, in their weekly Metal Report, say:

It is gratifying to report that during the recent panic, Metals have held their own much better than was generally anticipated, and although we cannot yet report any advance in prices or increase of business, there is reason to hope that with a general return of confidence, Metals will recover from their present depressed condition.

IRON.—The demand for Welsh and Staffordshire Iron is slack; makers complain of scarcity of orders, and would make a slight concession in price. Scotch Pig Iron, after touching 50s. 9d. cash, recovered to 53s. 6d. cash, but closes at 52s. 3d. cash.

COPPER.—A fair amount of business has been done, particularly in foreign. As high as £83 has been paid for Chili bars in Liverpool. Burra and Wallaroo have realized £87 10s.@£88. English Raw is in great demand for forward delivery at full prices, while Smelters decline orders, except for actual consumption, and early delivery.

TIN.—The market was very dull, and little disposition to operate; as low as $73 10s. accepted for straits; the market is now firmer, £75@£76, according to quality and shape. Banca nominally £78@£79. English dull of sale and offered under fixed rates. Tin plates have declined in price, and are all but unsaleable.

LEAD.—No change since our last.

SPELTER.—An averaage amount of business has been done, parcels on the spot here have realized £20 5s., and there are sellers for forward delivery at £20 10s. Special marks in outports have realized from £20 10s. to £20 17s. 6d.

Coal.—During the past week we have no change to report. The Pottsville *Miner* says:

"The demand for coal continues good, and prices are firm. Some sizes have advanced 25 cents a ton this month for small quantities, but we doubt whether it will continue after the first of July, when nearly all the present contracts for coal cease. The price of coal ought to be higher, but we doubt whether there will be any further advance for the present. It is, however, understood that the tolls will advance on the 1st of July."

The trade for the week ending June 9, is	288,305	4,426,512
Same week last year	117,973	2,991,632
Increase	170,332	1,434,880

This is owing, however, in great part, to the suspension of business last year.

Petroleum.—The market for crude at the beginning of the week was dull, and receipts larger. Sales noted of 5,000 to 6,000 bbls., at 25½c.@26c., and for refined, in bond, 40c.@41½c. The receipts of the latter are more limited. For Prime Light Straw to Standard White, 40c.@42c. Free Oil has been very dull, but prices are without change. We quote at 55c.@59c.

RECEIPTS.—For week ending June 12, 1866, 23,432 bbls.; since September 1, 1865, 617,379 bbls.; same time, 1864, 386,597 bbls.

EXPORTS.—To Great Britain and the Continent, for week ending June 12, 1866, 12,874 bbls.; since September 1, 1865, 397,088 bbls.; same time, 1864, 195,743 bbls.

Exports of Petroleum from the United States, from January 1 to June 2:

	1866.	1865.
From New York, galls.	11,644,709	3,322,055
Boston	724,868	395,719
Philadelphia	7,263,991	389,265
Baltimore	710,166	257,461
Portland	405	5,907
New Bedford	.....	.....
Cleveland	.....	.....
Total exports from the U. States	20,341,139	4,370,407
Same time 1864	.....	9,152,650
Same time 1863	.....	15,786,825

Salt.—Liverpool has arrived more freely, and has been sold to a good extent at lower and declining prices. In West India styles we have no change to quote.

Liverpool, Ground, ℔ sack	$1 50@$1 52½
Liverpool, Fine, Ashton's	Gold 2 75
Liverpool, Fine, Worthington's	2 50 2 60

Bulk Salt is scarce, and prices firm.

NEW YORK STOCK MARKET.

MINING.	June 9. BID.	June 9. ASKED.	June 11. BID.	June 11. ASKED.	June 12. BID.	June 12. ASKED.	June 13. BID.	June 13. ASKED.	June 14. BID.	June 14. ASKED.	June 15. BID.	June 15. ASKED.
Ada Elmore	3 00	....	3 10	3 25	3 30	3 45	3 20	3 30	3 25	....	....	....
Altona	....	2 25	....	....	....	2 25	....	....	....	2 20	....	2 00
American Flag	1 00	2 00	1 00	2 50	1 00	2 50	....	2 00	....	1 75	....	1 75
Atlantic & Pacific	....	4 50	....	4 50	3 05	4 50	2 75	4 00	2 00	3 90	2 00	3 90
Bates & Baxter Gold	....	2 00	....	2 00	1 80	2 00	1 50	2 20	....	2 00	1 50	2 00
Benton Gold	1 25	1 26	1 25	1 26	1 25	1 29	1 30	1 40	1 40	1 50	1 35	1 45
Bobtail Gold	....	3 00	....	3 25	....	3 00	....	....	....	3 00	....	3 15
Bullion Consol. Min'g. Co	....	....	....	....	....	....	....	....	....	....	....	....
Consolidated Gregory	10 70	10 80	10 65	10 85	12 25	12 35	13 70	13 90	13 55	13 60	13 90	14 00
Corydon	....	1 50	1 45	1 50	1 50	1 60	1 50	1 55	1 50	1 65	1 50	1 80
Downieville Gold	43	45	43	45	48	50	48	50	49	50	47	49
Eagle Gold	....	....	....	....	....	2 50	....	....	....	....	....	....
Gold Hill	....	....	....	....	....	....	....	....	....	....	....	....
Gunnell Gold	71	75	80	85	85	90	92	94	90	97	90	95
Gunnell Central	....	5 00	....	5 05	....	5 00	....	....	....	....	....	5 00
Holman	34	37	33	40	34	38	35	39	35	39	35	37
Hope Gold	3 00	....	3 00	4 00	2 75	3 00	2 75	3 50	2 00	3 00	2 50	3 50
Kipp & Buell Gold	1 40	1 70	1 35	1 50	1 40	1 50	1 40	1 50	1 40	1 55	1 40	1 50
Liberty Gold	10	25	5	20	5	20	....	30	....	....	....	30
Liebig Gold	....	....	50	80	60	....	60	....	60	1 00	60	1 00
Manhattan Gold	....	....	....	....	....	2 50	....	....	....	2 50	....	....
Montana	....	....	....	....	....	....	....	....	....	....	....	....
New York	26	30	20	30	30	....	30	34	30	35	35	....
Quartz Hill	3 65	3 85	3 70	3 90	3 75	4 00	4 00	4 10	4 00	4 10	3 85	4 10
Rocky Mountain Gold	....	2 50	....	3 00	2 00	2 50	2 00	....	....	2 40	2 00	2 50
Silver Eagle	....	....	....	....	....	....	....	....	....	....	....	....
Smith & Parmelee Gold	8 80	8 90	8 80	8 85	9 00	9 25	8 95	9 00	9 10	9 15	9 20	9 30
Texas Gold	....	....	....	....	....	....	....	....	....	....	....	....
Virginia City	....	....	....	....	....	....	....	....	....	....	....	....
Waddingham Gold	....	15 00	12 00	13 00	....	15 00	....	15 00	....	15 00	....	14 00
Bedford Copper	....	....	....	....	....	....	....	50	....	....	....	....
Caledonia Copper	....	....	....	4 00	....	4 00	....	....	....	4 00	1 00	4 00
Canada Copper	....	90	90	1 00	1 00	1 10	1 20	1 25	1 10	....	1 05	1 10
Evergreen Bluff Copper	....	9 00	4 00	7 00	....	10 00	....	6 75	....	....	....	10 00
French Creek Copper	....	....	....	....	....	1 25	....	1 25	....	....	....	1 00
Hilton Copper	....	1 25	....	1 50	....	....	....	....	....	....	....	....
Central Copper	....	....	....	....	100	....	....	....	....	45 00	....	....
Copper Falls	....	....	....	....	....	....	....	....	....	....	....	....
Sheldon & Columbian Cop	....	....	....	....	....	....	....	....	....	....	....	....
Knowlton Copper	3 75	....	....	5 00	3 75	....	....	....	....	....	....	....
Mendota Copper	....	....	....	5 00	....	4 75	....	....	....	4 50	1 00	4 00
Minnesota Copper	....	14 00	....	14 00	....	....	....	....	....	14 00	....	14 00
Norwich Copper	....	1 20	....	1 50	....	....	....	....	....	1 50	....	....
Ogima Copper	....	6 00	....	....	....	....	....	....	....	....	....	....
Quincy Copper	....	50 00	....	....	....	....	....	....	....	....	....	....
Superior Wisconsin	....	....	....	....	....	....	....	....	....	....	....	....
Deubo Lead	....	....	....	....	....	20	....	....	....	....	....	....
Phœnix Lead & Mining Co	....	....	....	....	....	....	....	....	....	....	....	....
Redwood Lead	....	2 80	....	2 80	....	....	....	2 80	....	2 80	....	2 75
Wallkill Lead	75	95	90	95	75	95	81	1 10	50	95	75	1 00
Columbian Coal	....	....	....	....	....	....	....	....	....	....	....	....
Schuylkill Coal	....	....	....	....	....	7 00	....	....	....	....	....	....
Lake Superior	....	....	....	....	....	....	....	....	....	....	....	....
Copake Iron	....	1 00	....	....	....	90	....	70	....	80	15	90
Foster Iron	....	....	....	....	....	....	....	....	....	....	....	....
Annular Drill	....	....	....	....	....	....	....	....	....	....	....	....
Eagle Gold	....	....	....	....	....	....	....	....	....	....	....	....
Rockland	5 00	....	5 00	....	....	4 75	....	4 75	....	....	....	4 75
Isle Royal	....	....	....	....	....	....	....	....	....	....	....	....
British American Coal	....	....	....	....	....	....	....	....	....	....	....	....
Princeton Copper	....	....	....	....	....	....	....	....	....	....	....	....

OIL STOCKS.

Bennehoff Run	11 60	11 75	11 65	11 95	11 40	11 55	11 30	11 40	10 90	10 95	11 50	11 50
Buchanan Farm	33	35	33	35	33	35	32	35	31	35	33	35
Central	2 15	2 60	2 25	2 60	2 35	2 60	2 25	2 70	2 40	2 60	2 40	2 50
Excelsior	36	39	56	38	35	36	36	37	36	37	36	....
First National	7	8	7	9	7	9	7	10	8	10	7	9
Ivanhoe	2 20	....	2 25	3 00	2 25	3 00	2 25	3 50	2 25	....	2 30	3 00
N. Y. & Alleghany	4 40	4 70	4 40	4 60	4 75	4 80	4 50	4 75	4 50	4 60	4 30	5 00
Northern Light	....	....	....	....	....	2 00	....	....	....	2 50	....	2 50
Oil Creek of N. Y.	....	58	....	60	....	60	40	52	....	60	20	50
Pit Hole Creek	2 25	2 65	2 25	2 65	2 20	2 25	2 15	2 60	2 20	2 70	2 30	2 50
Rynd Farms	20	23	20	30	20	25	20	25	20	27	21	....
Shade River	47	50	45	50	40	50	30	46	38	40	30	50
United States	5 50	5 60	5 70	5 80	5 75	5 80	6 40	6 50	6 50	6 70	6 65	6 75
Palmer Petroleum	....	....	....	....	....	....	....	....	....	....	....	....
Union	....	....	....	....	....	....	....	....	....	....	....	....
Empire and Pit Hole	....	....	....	....	....	....	....	....	....	....	....	....
Venango & Pit Hole	....	....	....	....	....	....	....	....	....	....	....	....
Allen Wright	....	....	....	....	....	....	....	....	....	....	....	....
Bergen Oil & Coal	....	....	....	....	....	....	....	....	....	....	....	....
Bennehoff & Pit Hole	....	....	....	....	....	....	....	....	....	....	....	....
Equitable	....	....	....	....	....	....	....	....	....	....	....	....
Fee Simple	....	....	....	....	....	....	....	....	....	....	....	....
Forest Co. Petroleum Co.	....	....	....	....	....	....	....	....	....	....	....	....
Gt Western Consolidated	....	....	....	....	....	....	....	....	....	....	....	....
Guild Farm	....	....	....	....	....	....	....	....	....	....	....	....
Heydrick Bros	....	....	....	....	....	....	....	....	....	....	....	....
Homowack	....	....	....	....	....	....	....	....	....	....	....	....
Lilly Run	....	....	....	....	....	....	....	....	....	....	....	....
Oak Shade Petroleum	....	....	....	....	....	....	....	....	....	....	....	....
Penn. Oil Creek	....	....	....	....	....	....	....	....	....	....	....	....
President	....	....	....	....	....	....	....	....	....	....	....	....
Southard	....	....	....	....	....	....	....	....	....	....	....	....
Sherman & Barnsdale	....	....	....	....	....	....	....	....	....	....	....	....
Sherman Oil	....	....	....	....	....	....	....	....	....	....	....	....

FREE LIST.

Bennehoff Run Oil	4 25	4 75	4 25	4 50	4 00	4 10	3 50	3 75	....	3 50	3 00	3 25
Brevoort	1 00	1 25	....	2 00	....	....	....	2 00	....	....	....	2 00
Bliven	50	....	50	1 25	50	....	50	....	45	....	50	....
Brooklyn	55	90	....	70	....	80	50	85	40	1 00	....	1 00
Bradley	4	8	5	....	5	10	4	5	4	8	....	10
Cherry Run Petroleum Co	15	25	18	25	....	....	19	21	20	50	18	25
Clinton Oil	80	1 25	85	....	75	....	....	....	85	1 25	85	....
Consolidated (New York)	....	1 40	....	1 10	....	1 25	....	1 10	....	1 25	....	1 50
Empire City Pet'm Co	....	25	....	35	....	40	....	....	15	30	15	40
Eclectic Oil	....	....	....	....	....	....	....	....	....	2 00	....	5 00
Enniskillen	....	....	....	....	....	2 00	1 00	2 00	....	....	....	....
Germania	11	14	11	13	11	13	11	13	11	15	....	12
Hamilton McClintock	....	....	2 55	....	2 50	2 60	1 50	2 45	1 25	2 75	1 00	....
Heydrick	17	30	18	20	17	20	18	20	15	20	....	....
High Gate	....	15	10	20	10	15	....	15	....	20	....	20
Liberty	5	20	....	25	....	....	....	25	....	25	....	....
Mt. Vernon	....	....	....	....	....	....	....	....	....	25	....	....
Manhattan	15	20	12	20	15	20	15	18	15	24	15	20
National	1 15	....	1 00	....	1 00	....	....	....	....	....	....	....
New York & Newark	....	....	9	12	....	....	5	12	5	10	....	8
New York, Phil. & Balt	12	....	12	20	12	25	12	20	12	....	....	20
Second National	....	1 00	10	1 00	....	....	....	75	50	60	....	....
Oceanic	8	....	9	20	8	10	9	10	....	12	....	10
Pepper Well	....	....	....	....	....	....	....	....	....	....	....	....
Pit Hole No. 2	....	....	....	....	....	....	....	5	....	....	....	....
Pit Hole Farms	....	....	....	1 70	....	1 60	....	1 60	....	1 45	....	....
Pet. Consolidation	15	17	15	17	14	....	13	16	13	17	10	....
Tack Petroleum Co., N.Y.	5	7	5	10	....	10	5	20	5	20	....	20
Union	3 00	5 00	3 00	....	....	....	3 50	....	3 50	....	3 50	6 00
United Petroleum Farms	25	30	23	24	....	23	21	30	20	....	19	20
West Va. Oil & Coal Co	4	6	5	6	....	4	6	5	5	4	....	5
Webster	10	17	15	28	....	30	15	25	15	....	15	....

BOSTON STOCK MARKET.

Reported for the Journal of Mining by Lombard & Co., 99 State Street, Boston.

COAL.

Companies.	June 8. BID.	June 8. ASKED.	June 9. BID.	June 9. ASKED.	June 11. BID.	June 11. ASKED.	June 12. BID.	June 12. ASKED.	June 13. BID.	June 13. ASKED.	June 14. BID.	June 14. ASKED.
Belmont	3 12	4 25	3 50	4 00	3 50	4 00	3 50	4 00	3 50	4 00	3 50	4 00
Eagle Hill Mutual	1 00	1 50	1 00	1 50	1 00	1 50	1 00	1 25	80	1 00	c0	80
Bear Valley	....	....	....	....	....	....	....	....	....	....	....	....
Continental	....	....	....	....	....	....	....	....	....	....	....	....
Franklin	8 75	9 25	8 75	9 25	8 75	9 25	9 00	9 25	8 60	9 00	7 50	8 90
Gilberton	36 25	40 25	36 25	40 25	36 25	40 25	36 25	40 25	36 25	40 25	36 25	40 25
Glenville	....	5 00	....	5 00	....	5 00	....	5 00	....	5 00	....	5 00
Harleigh	49 50	55 00	49 50	55 00	49 50	55 00	49 50	55 00	49 50	55 00	49 50	55 00
Lackawana	....	7 50	....	7 50	....	7 50	....	7 50	....	7 50	....	7 50
Lorberry	....	....	....	....	....	....	....	....	....	....	....	....
Locust Dale	17 50	20 00	17 50	20 00	17 50	20 00	17 50	20 00	17 50	20 00	17 50	20 00
Mammoth Vein	11 25	12 00	11 25	11 75	11 25	12 25	11 25	12 25	11 25	12 25	11 25	12 25
Mount Pleasant	30 00	35 00	30 00	35 00	30 00	35 00	30 00	35 00	30 00	35 00	28 00	30 00
New England	29 00	32 00	29 00	32 00	29 00	32 00	29 00	32 00	29 00	32 00	28 00	32 00
Short Mountain	25 50	26 25	26 00	28 25	26 00	28 25	26 00	27 25	26 00	27 00	25 50	27 00
Summit Branch	13 00	14 00	13 00	14 00	13 00	14 00	13 00	14 00	13 00	14 00	13 50	14 00

MINING.

Albany and Boston	..	12½	..	12	..	..	13	..	13	..	13	..	10
Bay State	13½	14	13¾	..	13⅞	14	..	..	13	14	12⅛	14
Boston	1	1¼	1	1¼	..	1⅛	..	1¼	..	1¼	1	1⅛
Central	25	..	25	40	25	40	..	40	..	40	..	..
Concord	..	3¾	3½	4	3½	4	3¼	4	3	..	3½	4
Copper Falls	..	42¼	40	..	43	43¾	43	44	..	43	42¼	42¼
Franklin	41½	42	41½	42¾	42	42¾	42	42½	42	42¾	42	..
Hancock	18½	19¼	..	19¾	18	20¼	19⅞	20	19½	20	19¾	20
Humbobit	4½	6	4¾	5½	5	5¾	5	5½	..	5½	4½	5
Huron	41	..	42	..	42	42¼	41	41¾	40	..	38	..
Isle Royal	..	13	..	13	..	13	10	13	..	13	..	13
Mesnard	1¾	..	1¾	2	1¾	2½	1¾	2¼	1¾	2½	1½	2¼
Minesota.....asst. pd	11	11½	..	11½	..	11½	..	11⅝	..	11½	..	11
National	15	..	15	..	15	..	..	..	..	..	..	..
Petherick	4½	4¾	5¼	6	6	6½	6¾	6½	6½	6⅝	..	6
Pewabic	36	36¼	35	..	..	37½	36	37	36	37	36	37
Phœnix	10	10½	10⅛	..	10	..	10	..	9¼	10⅛	8	..
Pittsburg	42½	50	45	50	..	50	49	50	45	50	..	50
Pontiac	1	1¾	1	1½	1	1¾	1	1¾	1	1¾	1	1¾
Quincy	48	50	48	..	47½	49	47½	..	47½	..	47½	..
Rockland	4⅜	..	4⅜	..	4⅜	4⅞	4⅝	4¾	4⅜	..	4⅜	4¾
South Side	1¼	3	1¼	..	2	2½	2	2½	..	..	1⅜	..
Star.....asst. pd	..	3	1¾	2	2	2¼	2	2¼	2	..	..	..
Superior	3½	3¾	3¼	3⅝	3½	3⅝	3	3½	..	3½	3	3¼
Toltec	..	..	1¼	..	1¼	..	1¼	2	1	..	1	1¼
Winthrop	..	..	2	2½	1⅝	2	2	..	2	..	1½	2
Consolidated Gregory Gold	10 80	11 00	16 70	10 90	11 00	11 25	12 50	12 65	13 80	14 00	13 50	13 75
Quartz Hill Gold	3 75	4 00	3 60	4 10	3 65	3 90	3 80	3 90	3 90	4 10	4 00	4 10
Smith & Parmelee Gold	9 10	9 20	8 75	9 00	8 80	8 90	9 00	9 10	8 90	9 00	9 10	9 20

PETROLEUM

Beebe Farm	5 00	10 00	5 00	10 00	5 00	10 00	5 00	6 00	5 00	6 00	5 00	6 00
Boston and Kentucky	10	20	10	20	10	20	10	20	10	20	10	20
Boston Oil Creek Land Co	....	25	....	25	....	25	....	25	....	25	....	25
Boston Petroleum Oil Co	60	2 00	60	2 00	60	2 00	60	2 00	60	2 00	60	2 00
Botolph Oil Well Co	....	75	....	75	....	75	....	75	....	75	....	1 00
Crescent Petroleum Co	75	1 00	75	1 00	75	1 00	75	1 00	75	1 00	75	1 00
Everett Oil Co	2	5	2	5	2	5	2	5	2	5	2	5
" " (Pref. Stock)	40	50	40	60	40	60	40	60	40	60	40	60
Farrar	4 50	6 00	4 50	6 00	4 50	6 00	4 50	6 00	4 50	6 00	4 50	6 00
Fuller Farm	15	25	15	20	15	20	15	20	15	20	15	20
Great Basin	2	5	2	5	2	6	2	5	2	5	2	5
Indian Spring	15	20	15	20	15	20	15	20	15	20	15	20
Mass. and Oil Creek	15	22	15	22	17	22	20	25	20	25	20	25
New England	6	8	4	7	6	10	6	10	6	7	6	7
New York and Boston	56	1 00	56	1 00	56	1 00	56	1 00	56	1 00	56	1 00
Pepper Petroleum	3 60	4 00	4 00	4 50	3 90	4 20	3 75	4 10	3 75	4 00	3 75	4 00
Pittsburgh and Boston	2	5	2	5	2	5	2	5	2	5	2	5
Tremont	2 00	3 00	2 00	3 00	2 00	3 00	2 00	3 00	2 00	3 00	2 00	3 00
Suffolk and Oil Creek	15	25	15	25	15	25	15	25	15	20	15	20
Winthrop	2	5	2	5	2	5	2	5	2	5	2	5

New York Companies.

Bennehoff Run	12 10	12 30	12 25	12 35	11 65	11 75	11 40	11 50	11 30	11 40	11 90	12 00
Bergen Oil and Coal	....	....	....	....	....	....	....	....	....	....	....	....
Bradley	....	....	....	....	....	....	....	....	....	....	....	....
Buchanan Farm	30	39	32	35	33	35	33	35	33	35	33	35
Central	2 50	2 60	2 25	2 35	2 25	2 35	2 35	2 45	2 25	2 35	2 35	2 45
Cherry Run	....	25	....	25	15	25	18	25	18	25	18	25
Consolidated	....	....	....	....	....	....	....	....	....	....	....	....
Empire City	15	30	10	25	10	25	20	35	36	40	36	40
Empire and Pit Hole	....	....	....	....	....	....	....	....	....	....	....	....
Excelsior	35	40	36	40	35	40	35	40	20	40	36	40
Northern Light	....	2 50	1 50	2 50	1 50	2 50	1 50	2 50	1 50	2 00	1 50	2 00
Oceanic	....	....	....	....	....	....	....	....	....	....	....	....
Oil Creek	50	60	55	60	50	60	50	60	45	50	....	....
Palmer Petroleum	....	....	....	....	....	....	....	....	....	....	....	....
President	....	35	....	....	....	....	....	....	....	....	....	25
Pit Hole Creek	2 25	2 50	2 25	2 50	2 25	2 50	2 30	2 50	2 15	2 25	2 20	2 30
Rynd Farm	20	25	20	30	20	24	20	30	20	25	20	25
Union	....	....	....	....	....	....	....	....	....	....	....	....
United States	5 50	5 60	5 50	5 75	5 70	5 85	5 75	5 85	6 40	6 55	6 50	6 65
Webster	15	20	....	....	....	....	....	....	....	....	....	....
Shade River	....	....	....	....	....	....	....	....	....	....	....	....

PRICES OF ASSAYING IMPLEMENTS.*

[CORRECTED WEEKLY.]

Smelting Furnaces	$35 00@	40 00
Cupelling "	35 00@	40 00
Scales	10 00@	30 00
Assay Balances and Weights	100 00@	200 00
Plumbago Crucibles	25@	1 50
Paris "	15@	1 25
Porcelain Evaporating Dishes	25@	5 00
Fire Tongs	75@	3 50
Hammers	1 00@	2 50
Funnels	15@	1 00
Litmus Paper, quire	1 00@	1 25
Ingot Moulds	1 25@	3 00
Flasks, Bohemian Glass	15@	1 00
Sand Baths, Iron	25@	1 00
Pluers	50@	2 00
Mortar and Pestle, Iron, Agath, etc	50@	20 00
Lamps, Gas and Alcohol	75@	5 00
Blowpipes	50@	3 00
Hydro-Oxygen Blowpipes	25 00@	125 00
Pincers, or Cutting Plyers	75@	1 50
Glass Tubes, German, etc., per lb	75@	1 50
Muffler	50@	1 50
Anvils	1 00@	2 00
Cupel Moulds	3 50@	5 00
Cupels, per doz	50@	3 50
Bone Ash, per lb	25@	50
Test Lead, "	50@	75

* These articles can be procured at the stated rates, by sending order, with remittance, to

WESTERN & COMPANY, 37 Park Row.

CHEMICALLY PURE PREPARATIONS * USED IN THE VOLUMETRIC ASSAY.

Acid, Acetic	$0 75	lb
" Arsenious	0 05	oz
" Hydrocholoric	0 50	oz
" Nitric	0 60	lb
" Oxalic	0 20	oz
" Sulphuric	0 75	lb
Ammonia	0 60	lb
Baryta, Carbonate	0 20	oz
" Hydrate	0 40	oz
" Nitrate	0 12	oz
Barium, Chloride	0 12	oz
Copper, Sulphate	0 10	oz
Iodine	0 75	oz
Iron, Sesquichloride, Cryst	0 25	oz
Lead, Nitrate	0 10	oz
Mercury, Peroxide	0 20	oz
" Protonitrate	0 25	oz
" Chloride	0 20	oz
Potassa, Carbonate	0 25	oz
" Bichromate	0 15	oz
" Bichromate, Fused	0 20	oz
" Chromate	0 15	oz
" Hydrate	0 40	oz
" Ferrocyanide	0 25	oz
" Permanganate	0 18	oz
" Sulphate	0 10	oz
Silver, Nitrate	Gold 1	10 oz
Soda, Acetate	0 10	oz
" Carbonate	0 10	oz
" Hydrate	0 20	oz
" Phosphate	0 10	oz
Sodium, Chloride	0 10	oz

UNITED STATES SECURITIES.

Reported for the Journal of Mining by Messrs. MEIGS, VON SEYBOLD & CO., No. 4 Broad st., New York.
Friday Evening.

LOANS. INTEREST PAYABLE IN GOLD.	AUTHORIZING ACTS.	AMOUNT OUTSTANDING.	RATE.	THEN PAY.	INTEREST.	WHEN PAYABLE.		OFF. PER CENT.	ASKED PER CENT
Registered Bonds	28 January, 1847	$9,415,250	6	1867	$564,915	Jan.	July.	128½	131
Coupon "									
Registered Bonds	31 March, 1848	8,908,342	6	1868	534,500	Jan.	July.	.....	124¾
Coupon "								128	.....
Registered Bonds	22 June, 1860	7,022,000	5	1871	351,100	Jan.	July	101	.....
Coupon "									
Registered Bonds	14 June, 1858	20,000,000	5	1874	1,000,000	Jan.	July.	101½	.....
Coupon "									
Bonds. March 3, 1863		.....	6	1881	.....				
Oregon War Debt		.....	6	1881	.....	Jan.	July.		
Registered Bonds	8 Feb. & 17 July & Aug., 1861	283,715,650	6	1881	.....	Jan.	July.	105⅞	106¾
Coupon "								.....	108¾
Registered "	25 February, 1862 (5-20's)	514,780,500	6	1882	30,886,830	May	Nov.	.....	102½
Coupon "									
Registered "	(5-20's) new issue	100,000,000	6	1884	6,000,000	May	Nov.		
Coupon "								.....	.....
Bonds. March 3, 1865	(5-20s)	65,175,500		1885	.....				
Registered "	(10-40's)	171,219,100	5	1904	.....	Mar.	Sept.	96⅛	96½
Coupon "								.....	.....
Total April 1		1,180,236,342							

LOANS. INTEREST PAYABLE IN LAWFUL MONEY.	AUTHORIZING ACTS.	RATE.	AMOUNT OUTSTANDING.	PRINCIPAL PAYABLE.	INTEREST.	WHEN PAYABLE.		OFF.	ASKED.
Bonds. Cent'l P. R. R. Co., July 2, 1864		6	$2,362,000 00	1895	$1,898,000 00	Jan.	July.	.....	.....
Bonds, Union P. R. R. Co., July 2, 1864		6	1,032,000 00	1895	.....	.....	.....	.....	.....
Temporary Loan		4	.....	.. 10 days' notice	.....	.....	.....	.....	.....
Temporary Loan		5	.....	.. 10 days' notice	.....	.....	.....	.....	.....
Temporary Loan		3	18,576,939 00	10 days' notice	.....	.....	.....	.....	.....
Certificates of Indebtedness. March 1, 1862		6	62,258,000 00	1 yr from date	.....	1 yr. fr. date		.....	.....
1 and 2 Years' Notes. March 3, 1863		5	8,536,900 00	.....	.....	1 yr. fr. date		.....	.....
3 Years' Compound Interest Notes	March 3, 1863 / June 20, 1864	6	172,012,141 00	3 yrs from date	.....	At maturity		.....	.....
3 Years' Treasury Notes	June 30, 1864 / March 3, 1865	7.3	.....	3 yrs from date	21,900,000 00	Aug.	Feb.	102¼	102⅜
3 Years' Treasury Notes. March 3, 1865		7.3	817,014,000 00	3 yrs from date	21,900,000 00	June	Dec	102⅜	102½
3 Years' Treasury Notes. March 3, 1865		7.3	.....	3 yrs from date	16,790,000 00	July	Jan	102¼	102⅜
Aggregate of Debt Bearing Lawful Money Interest. April 1			1,064,455,041 00	Total Interest					

NEW YORK METAL MARKET.

(CORRECTED WEEKLY.)

ANTIMONY	Regulus, ₱ lb	$ 00	12½@$ 00 13
	Crude	.. ..	.. ..
BORAX		.. 33	.. ..
BRIMSTONE		67 50	72 50
COPPER—Ingot.	Lake Superior, ₱ lb., cash.	.. 31	.. 32
	Baltimore	.. 30½	.. 31
	Pig Chili	.. 28	.. ..
	Bolts	.. 43	.. ..
	Braziers	.. 42	.. 43
	Sheathing	.. 45	.. ..
	Yellow metal	.. 33	.. ..
IRON—Pig	No. 1 Scotch, ₱ ton	44 00	46 00
	No. 1 American	45 00	45 00
	No. 2 "	40 00	42 00
	No. 2 Charcoal	.. ..	.. ..
Bar	Swedish, ordinary sizes	100 00	.. ..
	Amer. and Eng refined	115 00	135 00
	" common	105 00	110 00
Rails, American currency		.. 85	.. ..
" English gold		.. 56	.. ..
Horse shoe iron		140 00	150 00
Rods 5-8@3-16rd. and sq		117 50	175 00
Band		145 00	.. ..
Nail rods. 5-8 and 3-16		122 50	185 00
Hoops		145 00	215 00
Sheets, Russian, ₱ lb		.. 28	.. 30
" English "		.. 6¼	.. 9
" American "		.. 25	.. 25½
Boiler Plates, English		.. ..	.. ..
" American		.. ..	.. ..
STEEL	Best cast in bars, war	.. 24	.. ..
	Best sheet cast, "	.. 24	.. ..
	Best cast circular saw plates 46 in	.. 30	.. ..
	Double shear steel, war	.. 24	.. ..
	Single " "	.. 21	.. ..
	Montague & Co. C. S., in bars	.. 21	.. ..
	Round machinery cast	.. 16	.. ..
	Best German	.. 16	.. ..
	Government German	.. 13	.. ..
	Eagle German	.. 15	.. ..
	(L.) Blister, war	.. 21	.. ..
	W. Jessop & Sons, blister, war	.. 18	.. ..
	Double refined	.. 26	.. ..
	Stone Axe shapes	.. 26	.. ..
	Common blister	.. 15	.. ..
	2d quality sheet	.. 21	.. ..
	3d quality sheet	.. 18	.. ..
LEAD	American, per 100 lbs	.. ..	.. ..
	German Gold	6 62½	6 80
	Spanish "	6 62½	6 80
	English "	6 62½	6 87½
	Bar, per 100 lbs	9	.. ..
	Pipe and sheet	11½	.. ..
TIN	Banca Gov., per 100 lbs. gold	20	.. ..
	Straits	18½	.. ..
	English	18½	.. ..
TIN PLATES	IC 10-14 prime charcoal	14 50	.. ..
	IX 10-14 " "	17 25	.. ..
	IC 12-12 " "	15 00	.. ..
	IX 12-12 " "	17 75	.. ..
	IC 14-20 " "	15 50	.. ..
	IX 14-20 " "	18 25	.. ..
	IC 14-20 Roofing ch. 1st	14 00	.. ..
	IC 14-20 " " 2d	13 00	.. ..
	IC 14-20 " Coke	16 75	.. ..
	IC 10-14 Coke	11 00	13 00
SPELTER	Lehigh, per lb., gold	.. 6½	.. ..
	Foreign " currency	.. 10¾	.. 11
ZINC	Mussulman & Amer	.. 13	.. 14
SOLDER	No. 1	.. 25	.. ..
	No. 2	.. 22	.. ..
QUICKSILVER		.. 80	.. ..

LONDON METAL MARKET.

LONDON, May 25, 1866.

		£. s. d.	£. s. d
COPPER	Best selected, per ton	89 0 0	@.. .. ..
	Tough Cake & Tile, per ton	86 0 0	.. .. ..
	Burra Burra " "	90 0 0	.. .. ..
	Copper wire, per lb	0 0 11¾	.. .. ..
	" tubes, " "	0 0 12¼	.. .. ..
	Sheathing & Bolts, per ton	91 0 0	.. .. ..
	Bottoms, " "	96 0 0	.. .. ..
	Old (Exchange)	77 0 0	.. .. ..
IRON	Bars Welsh in London	7 10 0	8 0 0
	Do. to arrive	7 10 0	7 12 6
	Nail rods	8 7 6	9 5 0
	Do. Stafford in London	8 15 0	8 17 6
	Bars " "	8 15 0	10 0 0
	Hoops " "	9 15 0	10 10 0
	Sheets, single	10 7 6	11 0 0
	Pig No. 1 in Wales	4 5 0	4 10 0
	Refined Metal, do	4 0 0	5 0 0
	Bars Common do	6 15 0	7 5 0
	Do. Merch. Tyne or Tees	7 10 0	.. .. ..
	Do. Railway in Wales	6 10 0	6 15 0
	Do. Swede in London	11 10 0	.. .. ..
	To arrive	11 10 0	.. .. ..
	Pig No. 1 in Clyde	2 15 0	3 0 0
	Do. f. o. b. Tyne or Tees	2 9 6	.. .. ..
	Do. Nos. 3, 4, f. o. b. Do	2 6 6	2 5 6
	Railway Chairs	5 10 0	5 15 0
	Do. Spikes	11 0 0	12 0 0
LEAD	English Pig Common	21 0 0	.. .. ..
	Do. ordinary soft	21 5 0	21 7 6
	Do. (W. B.)	22 10 0	22 15 0
	Do. Sheet	21 15 0	.. .. ..
	Do. Red Lead	23 10 0	24 0 0
	Do. White	27 0 0	30 0 0
	Do. Patent Shot	23 15 0	24 0 0
	Spanish	20 5 0	20 10 0
STEEL	Swedish in kegs, rolled, p ton	13 0 0	14 0 0
	Do. hammered	15 0 0	16 0 0
	Do. in faggots	16 0 0	16 10 0
	English Spring	19 0 0	23 0 0
QUICKSILVER	Per bottle	7 0 0	.. .. ..
SPELTER	Foreign, per ton	20 12 6	.. .. ..
	To arrive " "	21 0 0	.. .. ..
ZINC	In Sheets	28 0 0	.. .. ..
TIN	English Blocks	85 0 0	.. .. ..
	Do. bars in barrels	86 0 0	.. .. ..
	Do. refined	88 0 0	.. .. ..
	Banca	78 0 0	.. .. ..
	Straits	75 0 0	.. .. ..
TIN PLATES*	IC Charcoal, 1st qu., per box	1 13 0	.. .. ..
	IX Do., 1st quality "	1 19 0	.. .. ..
	IC Do., 2d quality "	1 11 0	.. .. ..
	IX Do., 2d quality "	1 17 0	.. .. ..
	IC Coke	1 6 6	1 7 0
	IX Do	1 12 6	1 13 0
	Canada Plates, per ton, in London; 20s. less at the works	13 10 0	.. .. ..
YELLOW METAL	Sheathing, p lb	0 0 8½	.. .. ..
	Sheets, per lb	0 0 8½	.. .. ..
INDIAN CHARCOAL	Pigs, in London	7 0 0	7 10 0

* At the works. 1s.@1s. 6d. less.

SALES OF ORES.

SILVER LEAD (FROM AUSTRALIA).

SOLD 25TH MAY.

	TONS.	PRICE PER TON.	PURCHASERS.
Wheal Coglin	10½	£14 1 6	Locke, Blackett & Co.
Do.	19	15 12 6	Do. do.
Glen Osmond	2½	10 0 0	Panther & Co.
Do.	2½	10 0 0	R. Mitchell & Son.
Wheal Coglin	20	13 2 0	Do. do.
Do.	6½	10 15 0	Do. do.

LEAD.

	TONS.	PRICE PER TON.	PURCHASERS.
Minera	370	£13 15 6	Walker, Parker & Co.
Bronfloyd United	40	14 4 6	Mining Co. of Ireland.
Isle of Man Mining Co.	100	25 12 0	Sims, Willyams & Co.
Harwood Mining Co.	50	13 7 6	London Lead Co.
Bryngwyn	4	13 4 0	Newton, Keates & Co.
Do.	2	15 18 6	Walker, Parker & Co.
Hendra Ucha	6	13 5 6	Do. do.
Summer Hill	3¾	13 8 6	A. Eyton.
Do. do.	1¾	15 18 6	Do.
North Henbias	11	12 16 6	Do.
Do.	3	4 10 6	Newton, Keates & Co.
Dog Pit	13	12 3 0	Do. do.
Pool Park	20	14 3 6	Walker, Parker & Co.
Llanerchryaur	15	13 8 6	A. Eyton.
Llangynog United	39½	12 14 6	Do.
Bwlheoch	10½	12 15 6	Walker, Parker & Co.
Roman Gravels	25	13 8 6	A. Eyton.

BLENDE.

	TONS.	PRICE PER TON.	PURCHASERS.
Minera	103	£5 3 0	Vivian & Sons.
Do.	68	4 19 0	Do.
Do.	34	5 2 6	Do.
Do.	20	5 7 0	Do.

COPPER.

SOLD AT TRURO, MAY 24.

MINES.	TONS.	PRICE.	MINES.	TONS.	PRICE.
South Caradon	536..	£4309 18 6	West Caradon	161..	$ 713 17 6
N'h. Treskerby	431..	1931 19 0	St. Day United	53..	228 6 6
Cliff'd Amal'm.	375..	929 6 0	Craddock Moor	44..	239 8 0
Gt. Wh'l. Busy	314..	602 14 0	North Downs	40..	170 0 0
Phœnix Mines	295..	617 13 0	Darr'ul's Precip	14..	268 18 6
Wheal Rose	220..	841 18 6			

Average Standard, £104 0 0; Average Produce, 6⅞; Average Price per ton, £4 8 0; Quantity of Ore, 2,484 tons; Quantity of Fine Copper, 170 tons, 12 cwt; Amount of Money, £10,913 19 6.

Previous Average Standard, £115 2 0; Average Produce, 5½; Standard of corresponding sale last month, £110 12 0; Produce, 6⅞.

BY WHOM PURCHASED:

NAMES.	TONS.	AMOUNT.
Vivian & Sons	421⅔	£1,784 16 4
Freeman & Co	134	859 11 6
Greenfell & Sons	221½	1,087 14 4
Sims, Willyams & Co	178 1-6	685 12 7
Williams, Foster & Co	212½	1,498 3 0
Mason & Elkington	378 5-6	1,428 5 7
Bankart & Sons	163½	1,324 0 10
Copper Miners' Company	126½	323 1 3
Charles Lambert	361½	725 7 6
Sweetland, Tuttle & Co	217	1,045 6 0
Penclawd Copper Co	15½	68 12 4
Hadland & Co	54	93 3 0
Total	2,484	£10,913 19 6

SAN FRANCISCO STOCK MARKET.

LATEST BY MAIL.

NAME.	FRIDAY, May 11. Open'g	Clos'g	Sales for week Ending May 11. Shares.	Amount.
Sierra Nevada	$.....	$.....	30	$ 250 00
Imperial	130	126	605	88,640 00
Gould & Curry	.....	.....	2	1,790 00
Chollar—Potosi	322	340	325	102,032 00
Yellow Jacket	705	710	273	146,828 00
Bullion	.....	.....	106	7,282 00
Crown Point	.....	.....	4	5,150 00
Belcher	325	338	131	44,535 00
Overman	80	80	677	54,421 00
Ophir	540	550	234	127,442 00
Hale & Norcross	960	965	32	30,158 00
Exchequer	.....	.....	.....	.....
Savage	.....	.....	4	4,110 00
Empire Mill	.....	.....	17	2,571 00
Alpha	.....	.....	2	640 00
Blue Ledge	.....	.....	.....	.....
Lady Bryan	.....	.....	90	182 00
Daney	11	11	20	210 00
Caledonia Tunnel	.....	.....	.....	.....
Segrgat'd Belcher	.....	.....	10	140 00
Real del Monte	.....	.....	.....	.....
Confidence	39	37	147	4,751 00

LATEST BY TELEGRAPH.

SAN FRANCISCO, June 13.

Name.	Bid per foot.	Name.	Bid per foot.
Gould & Curry	750	Crown Point	1050
Savage	950	Yellow Jacket	650
Chollar-Potosi	200	Belcher	175
Ophir	325	Alpha	350
Hale and Norcross	1000	Imperial per share	115

Patent Claims,

Interesting to Miners, Millmen, Metallurgists, Oil-Men and Others.

The following claims have recently been issued from the United States Patent Office:

55,261.—APPARATUS FOR SEPARATING METALS FROM ORES.—John H. Elwood, Polo, Ill.:

I claim, 1st. The process herein described for separating the precious metals from ores, and amalgamating them as set forth.

2d, The combination of a cupola, a series of saturating vats, and an elevator, substantially as and for the purpose set forth.

3d. The combination of a cupola with a heating chamber having crushers and scrapers, arranged and operating substantially in the manner and for the purpose set forth.

4th. The combination of a furnace, lead bath, and reservoir, arranged and operating substantially as and for the purpose set forth.

5th. The stirrers, I, combined with the guide-trough, K, substantially as and for the purpose set forth.

6th. Passing the products of combination escaping from the cupola and heaters, through an exhaust-pipe kept charged with moisture, into a reservoir of water substantially in the manner and for the purpose set forth.

55,273.—APPARATUS FOR AMALGAMATING GOLD AND SILVER WITH LEAD.—H. L. Fulton, Chicago, Ill.:

I claim the arrangement in combination of the amalgamating vessel, B, its partition, D, the hollow cylinder, A, with its helical shaft, C, its hopper, E, its spout, F, and its opening, G, in the manner and for the purposes specified, substantially as described.

55,277.—ROCK DRILL.—Stephen F. Gates, Boston, Mass.:

I claim a rock drill, when made with cutting edges, arranged substantially as and for the purpose specified.

55,307.—ROCK DRILL.—Lemuel P. Jenks and George Arthur Gardner, New York City:

We claim, 1st, Suspending the machine-bearing slide, M, upon

the same centre with the disk. M. in combination with the arrangement whereby the slide, N, can be fastened at any angle, substantially as described.

2d. The standard-block. H*, in combination with the gibs or friction pieces, J. J, when the same is used with rock drills, and constructed substantially as shown, for the purpose of giving universality of motion, horizontally, all substantially as described.

3d, Regulating the feed of a rock drilling machine toward the rock, according to the extent of penetration of the drill into the same, by the arrangement constructed and used substantially as described.

4th, The arrangement of a screw-shaft and nut, for the purpose of raising and lowering the machine, when used with rock drills, and constructed substantially as described.

55,367.—MANUFACTURE OF ARTIFICIAL FUEL.—Charles Saffray, New York City:

I claim, 1st, The within-described process of aggregating coal-dust or waste coal by first producing a powder of pitch or resin and coal-dust, which is mixed cold with the coal to be aggregated, and, after having been subjected to a suitable pressure, is dried, substantially as and for the purposes set forth.

Also, the product obtained by treating coal-dust or waste coal in the manner above specified.

55,388.—APPARATUS FOR COLLECTING FLOATING OIL FROM STREAMS.—E. C. Summers, Huntingdon, Pa.:

I claim, 1st, The combination of the boards or planks, B, with the boat sheets of iron, C, when arranged to form a floating boom for collecting surface oil, substantially in the manner herein-before described.

2d. The combination of the trough, D, with the trough or boom, A, for confining the oil and water as it passes through the former, to effect the more perfect action of the chute, E, substantially as described.

3d. The combination of the chute, E, with the trough, D, and tank, I, when arranged to operate substantially as describe and for the purposes specified.

55,442.—CASTING STEEL.—Anton Lohage, Unna Westphalia, Prussia:

I claim, 1st, The process herein-before described, and called intermediate process, whereby I continue the melting process till the mass is "overmetaled" or "superheated," made uniform and ready for casting.

2d, The modes herein-before described of altering the temper of the molten steel in the intermediate process.

RE-ISSUES.

2,275.—STEAM DRILLING MACHINE.—Joseph W. Fowle, Boston, Mass. Patented March 11, 1851, and extended:

I claim a drilling engine in which the drill has an intermittent rotary movement, or a progressive feed movement, or both a rotary and feed movement, the attachment of the drill directly to the cross-head of the engine or to the piston, or an elongation therefrom, in such manner that the drill is driven by the direct pressure of the motor upon the piston.

2,278.—MACHINE FOR CHANNELING STONE.—Thomas Ross, Middlebury, John B. Reynolds, E. Barrett, and A. T. Merriman, assignees by mesne-assignments of John Taggart, Rutland, Vt. Patented Dec. 4, 1855:

We claim, 1st, A machine consisting of drills arranged in one or more gangs, and also of mechanism for guiding such gang or gangs of drills, and imparting thereto or causing to be imparted thereto reciprocating movements or the same and longitudinal movements, whereby such gang or gangs when applied to stone may be caused to cut or drill one or more grooves therein, substantially as described.

We also claim the combination of one or more standards, U, U, or the equivalent thereof, with the drills or the gang or gangs thereof, and machinery for guiding and operating the same, such standard or standards being to rest in the groove or grooves in which the drills may be in action, and being for the object or purpose as herein-before explained.

Special Scientific Brevities.

☞ Dr. Charles Saffray, of this city, has a process for aggregating coal dust or waste coal by mixing the same cold with pitch or rosin reduced to a fine powder, so that when the mass is compressed and slightly heated the pitch or rosin fuses and forms a cement which firmly unites the particles of coal, and a fuel is obtained which can be used with great advantage in locomotive or other steam boiler furnaces, or in any furnace where a steady and powerful heat is desired.

☞ A method has been discovered in Belgium to obtain a photographic groundwork for oil paintings. Fine canvas or silk, such as is employed for small and delicate works, is used. The process is simply to cover the surface with a preparation of collodion and chloride of silver, and expose and prepare it in the ordinary manner, just as in the case of paper.

☞ The report of an explosion of one hundred and fifty pounds of powder has been heard at a distance of ninety miles, and the shock, which resembled that of an earthquake, was perceived at a distance of twenty-five miles.

☞ A trial has been made on the Northern Railway of Belgium, of a train of carriages lubricated with *water*. The working is reported to have been quite satisfactory, at a speed of eight kilometers (48 miles) per hour.

☞ Nitro-glycerine is made by pouring drop by drop, or in minute quantities, one equivalent of glycerine into nine of sulphuric and three of nitric acid, stirring the mixture during the operation.

☞ Scientific investigations show that in ascending mountains the heart-beats increase on an average one per minute for every hundred yards of ascent.

☞ The vapor of mercury escapes from that liquid at all temperatures above forty degrees. Many persons have lost their lives by inattention to this fact.

☞ When gunpowder is heated nearly up to the point of decomposition, previously to ignition, the force of its explosion is greatly increased.

☞ The photographic power of the sun is due to the presence of invisible rays. It is not the light that paints the solar picture.

Mineral and other On-dits.

☞ From the report of the eighth census it appears that there are seven establishments in the United States for copper rolling. These establishments employ 431 hands, and have a capital invested of $2,470,000. The cost of material consumed by them is valued at $2,537,000; the cost of labor at $157,080, and the annual value of products for the year ending 1st of June, $3,198,768.

☞ The New York and New Haven railroad company are experimenting with peat as fuel for their locomotives. It is said to give a freer heat than coal, and is not nearly so destructive to the grates and fire plates. In the working of iron and steel it is greatly preferred, being entirely free from sulphur.

☞ Crude petroleum is being extensively used in Western New York for the destruction of insects on trees. It was found that the acids of refined petroleum were injurious to the trees themselves, but crude is harmless and has the desired effect in permanently destroying the vermin.

☞ Five gold mines in Merionethshire, England, yielded in 1864, 2,356 tons of quartz. This was crushed and amalgamated, and gave 2,887 ounces of gold. This is nearly one and a quarter ounces to the ton, worth over twenty-one dollars in coin.

☞ A gentleman residing in Arizona sends the San Francisco *bulletin* a specimen of rock salt taken from a mine on Virgin river, about 20 miles from a point of navigation. It was taken from a ledge or mountain of pure salt 100 feet high.

☞ A bismuth mine has been opened in South America, two-thirds up the highest peak of the Andes—the Ilampu mountain. It is 15,000 feet above the sea, and just below the line of perpetual snow.

☞ The yield and profit of surface mining in Missouri may be judged of from the fact that it has, in the last forty years, produced upwards of one hundred millions pounds of pig lead.

☞ A new product, which bids fair to compete with, if not supersede turpentine, has recently been obtained. It is distilled from petroleum and asphaltum.

☞ A Philadelphia gentleman writes that he believes it will not be long before our anthracite coal will find a market in France.

☞ The manufactories of Manchester, England, consume 20,000 tons of coal every twenty-four hours.

☞ A company has been formed in New London, Conn., for the manufacture of peat on a large scale.

All Sorts.

☞ The following transcript of a letter just received by the California mail tells its own story:

OFFICE OF WELLS, FARGO & CO.,
San Francisco, May 19th, 1866.

San Juan and Nevada stage robbed at 4 A. M. of $7,000; reward offered at 7 A. M.; robbers shot and all the money recovered at 2 P. M.; coroner's inquest, 3 P. M.; funeral of the thieves, 6 P. M.

☞ The great tunnel under Lake Michigan, which is being constructed by the people of Chicago for the purpose of procuring an inexhaustible supply of fresh water, is rapidly progressing. In all, a distance of 7,454 feet has already been excavated, and the work progresses at the rate of 25 feet a day. There remains but 3,106 feet to be excavated.

☞ A letter from San Antonio, Texas, says the Government camels, the descendants of the herd imported some fifteen years ago from Egypt, excite the curiosity of strangers. They number about seventy, are all sizes and ages, some still unweaned. Only seven of the original lot are alive.

☞ The gigantic glow worm of the torrid zone is sometimes inclosed in a glass bottle and made to do duty as a lantern, and the sugar bugs, it is said, will light up a cane field at night so that a person can read.

☞ Upward of 900 miles of the new Atlantic telegraph cable have been stowed on the Great Eastern. About sixty miles per day were stowed away, the work proceeding day and night.

☞ Mr. Hollister of the *Mining Journal*, Central City, is about to publish a complete history and directory of the Central mines of Colorado, and the towns and cities in their vicinity.

☞ The University of Michigan is now the largest University in this country, containing 1,051 students.

☞ An ice company has begun manufacturing ice at a factory on Cross Bayou, Louisiana.

☞ Operations are being renewed for building the Overland Telegraph line to Russia.

The Comstock Lode.

Baron Ruthofen states that the yield of the Comstock lode has been as follows:

In '62	$ 4,000,000	namely, silver	2,500,000	gold	1,500,000
" '63	12,000,000	" "	8,000,000	"	4,000,000
" '64	16,000,000	" "	11,000,100	"	5,000,000
" '65	16,000,000	" "	12,250,000	"	4,750,000
Total,	$48,000,000		32,750,000		15,250,000

The richest deposits were taken from the lodes, whose outcrop was most promising, namely, Ophir, Gould and Curry, Savage, Chollar-Potosi, Gold Hill mines, Yellow Jacket, Crown Point, and Belcher. He says that it may be assumed that the ores will retain their character of true silver ores to indefinite depths.

A New Iron Ore.

A new iron ore is described by Mr. John Sutherland, of Glasgow. It has much the characteristic appearance of plumbago, and leaves a black, greasy stain when rubbed between the fingers. It is comparatively soft, and when scratched with a knife, falls off the mass in beautiful shining particles, having a metallic lustre, and not unlike powdered mica. The mineral is said to have been obtained in Ireland, near the surface, underlying about fifteen feet of peat. The following is a rough analysis of it:

Matter insoluble in H Cl and N O	9·5
Ferric Oxide	90·5
	100·0

It is quite unacted on by the blowpipe, and contains no carboniferous matter whatever.

Asia Minor Coal.

A further discovery of coal has been made in Asia Minor. This coal and iron district extends from Seidekene to beyond Denizlu, about 200 miles, and from the Arpasoe to Keurk Aghaj, 150 miles across. It is reached by two railways, but as yet only a small quantity of coal and iron is scratched up for local purposes.

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CARD.—Professor H. DUSSAUCE, Chemist, lately from the laboratory of the French Government, will leave for Europe in the middle of May, where he will reside several months. He takes occasion to inform his numerous friends that he is ready to transact any business there in the chemical line, such as buying books and apparatus, machinery, presses, etc., selling chemical patents, etc. For further information address New Lebanon, N. Y.

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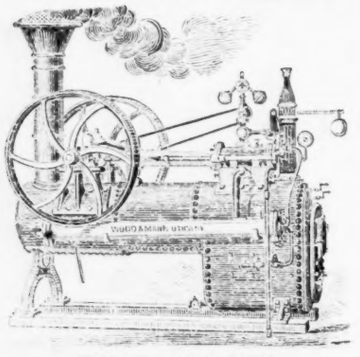

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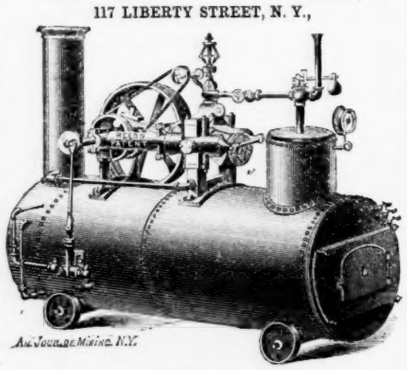

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New York, March 1, 1866. 1-tf

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MR. CYRUS PALMER, one of the proprietors of the Miner's Foundry, San Francisco, has lately arrived, and will remain in New York and vicinity for some months, and is prepared to take contracts to furnish all kinds of mining machinery of the most approved style at short notice, delivered in San Francisco, or at any of the mines on the Pacific coast. He will also, if required, contract to build mills at the mines, and put them in complete running order.

Mr. Palmer has just left the Pacific coast, and is therefore, acquainted with the most approved machinery in use for reducing ore and saving the precious metals. Mr. P. has not only been actively engaged for the last ten years in manufacturing mining machinery, but has had large experience in working mines and reducing ores. On application to his address, 25 Nassau street, by letter or otherwise, he will be pleased to give any information required in regard to mining or other machinery, gratis, to any company, whether they wish to contract or not.

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Mr. Palmer can be found at the office of R. H. Vance, Esq., 25 Nassau street, corner Cedar, from 11 to 12 o'clock, daily 1-ps

THE "SHAW" COPPER MINE.

Public attention has several times, of late, been directed to the great mineral resources of Canada East, and the riches of the copper fields have been given prominence to by Sir William Logan, in his "GEOLOGY OF CANADA;" and Mr. Herbert Williams, the Superintendent of the

HARVEY HILL MINE,

has done much, practically and by writing, to enable us to form a correct estimate of the immense value of that great mine. In the same *synclinal* there are the copper deposits of Sutton, Shefford, Stukely, Melbourne, Skipton, Chester, Halifax, Leeds, Inverness and St. Mary; and Lot on No. 9, in the 6th Range of the Township of Chester, is

THE SHAW MINE,

which at present may be viewed only as second to HARVEY HILL, from its being less developed. The Copper, which is in the form of purple and yellow sulphurets, is found in the "nacneous" slates; and "green carbonate," associated with quartz, has been discovered in several of the costeens, giving to the copper-bearing schists a considerable wealth. Mr. Herbert Williams, who is highly esteemed by Sir William Logan, as a practical mining engineer, twice visited the property, in January and November, 1865, and reports the results of operations thus:

"No. 1 opening exhibits fair samples of purple and yellow sulphurets, associated with quartz veins.

"No. 2, distant SE. from No. 1 about 200 feet, exhibits wide bands of "nacneous" slates, carrying veins of quartz. This outcrop, for a width of 50 or 60 feet, carries some promising samples of purple and yellow Sulphurets, and, also, the green carbonate in notable quantity." Mr. Williams adds: "Adjoining this, to the SE., is the "VIGER" mining locations, upon which most promising discoveries of copper ore have been made, and are now being opened up; these dip towards, and will, I believe, be found to underlie, to a very considerable extent, the SHAW property."

In November, Mr. Williams reports: "The most important operation, since my previous visit, is the sinking of a shaft, to the depth of about 27 feet, in a band of copper-bearing schist situated to the westward of the openings referred to in my first report. This band has an average width of between 4 and 5 feet, and shows some fine and promising samples of purple and yellow sulphurets of copper, some tons of which have been broken and brought to the surface. The continuation of this band, notwithstanding its being capped over in several places, is discovered by the costeens for a distance of between 500 and 600 feet, and, combined with the very promising appearance of the shaft, warrants my recommending a more vigorous trial of the property."

The contour of the lot presents many advantages for economic mining. The high ground SE. of the Craig road will admit of mining by "adit" or "cross-cut" to a very fair depth, thus dispensing with the use of expensive machinery for many years to come. There is abundance of wood on the property for all mining purposes, as well as for fuel; and one decided advantage which it possesses over the Harvey Hill Mine, is the abundant supply of water from a river passing through the property, which will enable the ore to be dressed at a very moderate cost.

The distance of this mine from the Athabaska station on the Grand Trunk Railway is 15 miles, by a moderately good road, and the transport of materials to and from the mines to that station will not exceed $3 per ton. Athabaska station is 64 miles from Quebec, and 26 from Ricomond, on the Portland route. Laborers can be found as required, and at moderate wages.

In following the course of this synclinal in a South-westerly direction, the copper-bearing slates present themselves in several places, and there is no difficulty in tracing them, notwithstanding the absence of gossan, and there are other characteristics observable by which their existence is identified—one of which is the association of chloritide with the slates. The metamorphic action of the copper on the slate is characterized by some peculiar alterations whenever the copper is in contact with it. The discovery of the existence of further quantities of copper may therefore be reasonably expected.

The advantages thus offered by the "Shaw Mine" may be thus summed up:

1st. The existence of Copper ore of available richness in large quantity, and which can be easily worked for sometime by "adit."
2d. The Mine being easily accessible, and only a short distance from the Grand Trunk Railway.
3d. Cheap transport and cheap labor.
4th. Water and wood in sufficient abundance.

These all point out, that if any Copper Mine in Canada can be worked successfully, the "Shaw Mine" offers facilities, which must place it pre-eminently in that category, and encourage its owners to look forward to no distant day for returns, which must be highly remunerative.

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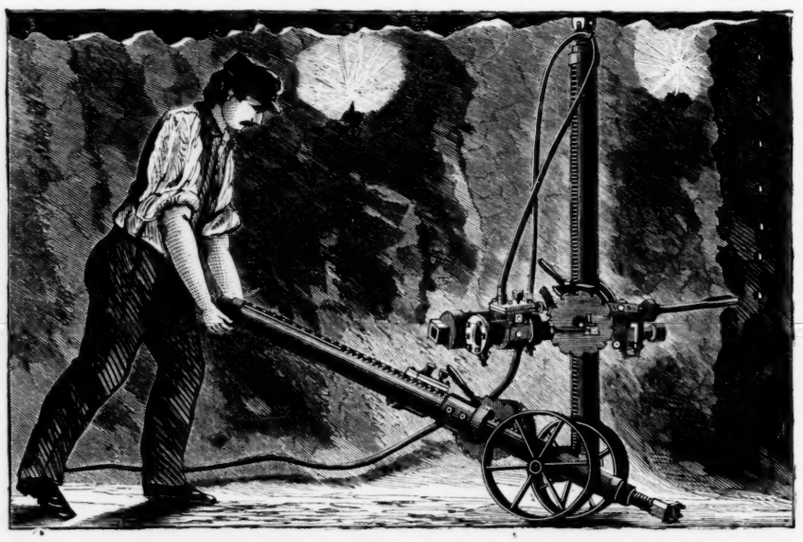

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